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NEWS	3	JUL 28	EPFULL enhanced with additional legal status information from the epline Register
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NEWS	5	JUL 28	STN Viewer performance improved
NEWS	6	AUG 01	INPADOCDB and INPAFAMDB coverage enhanced
NEWS	7	AUG 13	CA/CAPLUS enhanced with printed Chemical Abstracts page images from 1967-1998
NEWS	8	AUG 15	CAOLD to be discontinued on December 31, 2008
NEWS	9	AUG 15	CAPLUS currency for Korean patents enhanced
NEWS	10	AUG 27	CAS definition of basic patents expanded to ensure comprehensive access to substance and sequence information
NEWS	11	SEP 18	Support for STN Express, Versions 6.01 and earlier, to be discontinued
NEWS	12	SEP 25	CA/CAPLUS current-awareness alert options enhanced to accommodate supplemental CAS indexing of exemplified prophetic substances
NEWS	13	SEP 26	WPIDS, WPINDEX, and WPIX coverage of Chinese and Korean patents enhanced
NEWS	14	SEP 29	IFICLS enhanced with new super search field
NEWS	15	SEP 29	EMBASE and EMBAL enhanced with new search and display fields
NEWS	16	SEP 30	CAS patent coverage enhanced to include exemplified prophetic substances identified in new Japanese-language patents
NEWS	17	OCT 07	EPFULL enhanced with full implementation of EPC2000
NEWS	18	OCT 07	Multiple databases enhanced for more flexible patent number searching
NEWS	19	OCT 22	Current-awareness alert (SDI) setup and editing enhanced
NEWS	20	OCT 22	WPIDS, WPINDEX, and WPIX enhanced with Canadian PCT Applications
NEWS	21	OCT 24	CHEMLIST enhanced with intermediate list of pre-registered REACH substances
NEWS EXPRESS	JUNE 27 08		CURRENT WINDOWS VERSION IS V8.3, AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.
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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 14:52:16 ON 07 NOV 2008

=> file caplus

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FULL ESTIMATED COST	0.21	0.21

FILE 'CAPLUS' ENTERED AT 14:52:58 ON 07 NOV 2008

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FILE COVERS 1907 - 7 Nov 2008 VOL 149 ISS 20

FILE LAST UPDATED: 6 Nov 2008 (20081106/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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=> e caruthers ed/au

E1	1	CARUTHERS E/AU
E2	3	CARUTHERS E B/AU
E3	20 -->	CARUTHERS ED/AU
E4	2	CARUTHERS EDDIE/AU
E5	1	CARUTHERS EDDIE L/AU
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E4	3	CARUTHERS E B/AU

E5 20 CARUTHERS ED/AU  
 E6 2 CARUTHERS EDDIE/AU  
 E7 1 CARUTHERS EDDIE L/AU  
 E8 1 CARUTHERS EDDIE LEE JR/AU  
 E9 5 CARUTHERS EDWARD B/AU  
 E10 3 CARUTHERS EDWARD B JR/AU  
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1 "CARUTHERS E"/AU  
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 L1 28 ("CARUTHERS E"/AU OR "CARUTHERS E B"/AU OR "CARUTHERS ED"/AU OR  
 "CARUTHERS EDDIE"/AU OR "CARUTHERS EDDIE L"/AU OR "CARUTHERS  
 EDDIE LEE JR"/AU)

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L1 ANSWER 1 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2005:527371 CAPLUS  
 DN 143:45326  
 ED Entered STN: 19 Jun 2005  
 TI Multiuse, solid cleaning device and composition  
 IN Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie  
 PA USA  
 SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C11D001-00  
 INCL 510459000  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050130868	A1	20050616	US 2004-925331	20040824
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP	1725648	A2	20061129	EP 2005-713227	20050210
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IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA,  
HR, LV, MK, YU

CN	1918276	A	20070221	CN	2005-80004598	20050210
BR	2005007493	A	20070710	BR	2005-7493	20050210
JP	2007522326	T	20070809	JP	2006-553208	20050210
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MX	2006PA08945	A	20070126	MX	2006-PA8945	20060807
US	20070184998	A1	20070809	US	2006-597837	20060809
US	20070232517	A1	20071004	US	2006-535896	20060927
PRAI	US 1999-437532	A3	19991110			
US	2002-144331	A2	20020513			
US	2003-448239P	P	20030218			
US	2004-775264	A2	20040210			
US	2004-925331	A	20040824			
WO	2005-US4133	W	20050210			
US	2006-597837	A2	20060809			

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20050130868	ICM	C11D001-00
	INCL	510459000
	IPCI	C11D0001-00 [ICM, 7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM, 7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM, 7]; C11D0017-00 [ICS, 7]; C02F0001-42 [ICS, 7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];

		C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
NCL		510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
ECLA		B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
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CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
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WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08 [I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A]; C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39 [I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C]; C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
	FTERM	3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21;

4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05;  
 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16;  
 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13;  
 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28  
 KR 2007009560 IPCI B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00  
 [I,A]; C11D0003-00 [I,A]  
 MX 2006PA08945 IPCI B01F0001-00 [I,C\*]; C11D0003-02 [I,C\*]  
 US 20070184998 IPCI C11D0003-395 [I,A]  
 NCL 510/302.000  
 US 20070232517 IPCI C11D0017-00 [I,A]  
 IPCR C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04  
 [I,C\*]; C11D0017-04 [I,A]  
 NCL 510/445.000  
 ECLA C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;  
 C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H  
 AB A multiuse laundry cleaning device in a solid state containing a homogeneous  
 quantity of cleaning agent configured to be disposed within a laundry  
 cleaning machine tub and to dissolve and release a substantially  
 consistent quantity of cleaning agent over a plurality of laundry wash and  
 rinse cycles. The cleaning agent includes a gas-releasing component,  
 potassium silicate as a solubility control component to limit the solubility  
 of the  
 cleaning agent, an alkalinity agent as a pH regulator, and a water softener to  
 solvate metal ions in a solution of water. Controlled dissoln. of the  
 cleaning agent composition releases a desired quantity of cleaning agent in  
 each cleaning cycle over a plurality of cycles. A porous covering or bag  
 may be disposed around the solid cleaning agent. Thus, a multiuse laundry  
 cleaning device comprises 42% to 52% by weight sodium perborate monohydrate  
 as the gas-releasing component, 35% to 45% by weight potassium silicate as  
 the solubility control component, 1% to 5% by weight zeolite as the water  
 softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to  
 3%  
 by weight of a optical brightener, 1 to 5% by weight of a fragrance component;  
 and 0.5 to 3% by weight of an anti-redeposition component.  
 ST sodium perborate monohydrate potassium silicate zeolite cleaning device;  
 solid cleaning compn sodium hydroxide  
 IT Detergents  
 (laundry, solid; multiuse, solid cleaning device and composition)  
 IT Zeolite-group minerals  
 Zeolites (synthetic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (water softener; multiuse, solid cleaning device and composition)  
 IT 1310-73-2, Sodium hydroxide, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (alkalinity agent; multiuse, solid cleaning device and composition)  
 IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses  
 10332-33-9, Sodium perborate monohydrate 15630-89-4, Sodium percarbonate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (gas-releasing component; multiuse, solid cleaning device and composition)  
 IT 1312-76-1, Potassium silicate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (solubility control component; multiuse, solid cleaning device and  
 composition)  
 L1 ANSWER 2 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2004:681376 CAPLUS  
 DN 141:192284  
 ED Entered STN: 20 Aug 2004  
 TI Autonomous cleaning composition and making up the cleaning composition  
 IN Caruthers, Eddie L.  
 PA Eco-Safe Technologies, L.L.C., USA  
 SO U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Pat. Appl. 2002

132,752.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM D06L001-00  
 ICS C11D017-00  
 INCL 510276000; X51-044.5; X51-045.5  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20050130868	A1	20050616	US 2004-925331	20040824
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
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CN	1918276	A	20070221	CN 2005-80004598	20050210
BR	2005007493	A	20070710	BR 2005-7493	20050210
JP	2007522326	T	20070809	JP 2006-553208	20050210
KR	2007009560	A	20070118	KR 2006-715949	20060807
MX	2006PA08945	A	20070126	MX 2006-PA8945	20060807
US	20070184998	A1	20070809	US 2006-597837	20060809
US	20070232517	A1	20071004	US 2006-535896	20060927
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	US 2002-144331	A2	20020513		
	US 2003-448239P	P	20030218		
	US 2004-775264	A2	20040210		
	US 2004-925331	A	20040824		
	WO 2005-US4133	W	20050210		
	US 2006-597837	A2	20060809		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20040162227	ICM	D06L001-00
	ICS	C11D017-00
	INCL	510276000; X51-044.5; X51-045.5
	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12

		[I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20050130868	IPCI	C11D0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*];

WO 2005077064	IPCI	C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A] C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08 [I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A]; C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39 [I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C]; C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
	FTERM	3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A solid cleaning composition is a long-term, solid cartridge made of cleaning agents and a solubility limiting agent for controlling an equilibrium concentration of the composition in a solvent, such as H2O. In use, the cleaning agents are dissolved only to a predetd. concentration needed for a single dose of a cleaning appliance, such as a clothes washing machine. The solid cleaning composition may be cyclically exposed to H2O. Controlled dissoln. of the cleaning composition releases a desired quantity of cleaning agents in each cleaning cycle. The use of K silicate as a solubility controlling compound permits manufacture of the cleaning composition at ambient temps. and pressures. The cleaning

composition may be molded or cast into a desirable shape for controlling surface area.

ST carbonate cleaning agent laundry washing

IT Cleaning  
 (effervescent agents, nondetergent; solid cleaning composition based on)

IT Effervescent materials  
 Laundering  
 (solid cleaning composition based on)

IT Zeolites (synthetic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (water softener; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 533-96-0, Sodium sesquicarbonate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (alkalinity agent; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (effervescent cleaner; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 1312-76-1, Potassium silicate 3313-92-6, Sodium percarbonate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (solubility control agent; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Anon; WO 9117232 1991 CAPLUS
- (3) Anon; WO 9804672 1998 CAPLUS
- (4) Backes; US 5665694 A 1997 CAPLUS
- (5) Barford; US 5711920 A 1998 CAPLUS
- (6) Bartelme; US 6387864 B1 2002 CAPLUS
- (7) Caruthers; US 6178987 B1 2001 CAPLUS
- (8) Caruthers; US 6262004 B1 2001 CAPLUS
- (9) Caruthers; US 6403551 B1 2002 CAPLUS
- (10) Caruthers; US 6689276 B1 2004 CAPLUS
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- (12) Davies; US 5916866 A 1999 CAPLUS
- (13) Denisar; US 5870906 A 1999
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- (17) John; US 5316692 A 1994 CAPLUS
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- (21) Olson; US 6365568 B1 2002 CAPLUS
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L1 ANSWER 3 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2001:359871 CAPLUS  
 DN 134:354853

ED Entered STN: 18 May 2001  
 TI Autonomous cleaning gas-releasing compositions, apparatus and system for washing laundry  
 IN Caruthers, Eddie; Briggs, Eric; Corenflos, James  
 PA Eco-Safe, L.L.C., USA  
 SO PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM B01F001-00  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001034284	A1	20010517	WO 2000-US30909	20001110	
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	US 6178987	B1	20010130	US 1999-437382	19991110	
	US 6262004	B1	20010717	US 1999-438067	19991110	
	US 6403551	B1	20020611	US 1999-437532	19991110	
	AU 2001014818	A	20010606	AU 2001-14818	20001110	
PRAI	US 1999-437382	A	19991110			
	US 1999-437532	A	19991110			
	US 1999-438067	A	19991110			
	WO 2000-US30909	W	20001110			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001034284	ICM	B01F001-00
	IPCI	B01F0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6178987	IPCI	B01F0001-00 [ICM,7]
	IPCR	A47L0015-44 [I,C*]; A47L0015-44 [I,A]; B01F0001-00 [I,C*]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; D06F0039-02 [I,C*]; D06F0039-02 [I,A]
	NCL	137/268.000; 068/017.000R; 422/264.000
	ECLA	A47L015/44C; B01F001/00F2; C11D003/00B10; C11D003/02H; C11D003/10; C11D003/12G; C11D003/12G2F; C11D011/00F; D06F039/02
US 6262004	IPCI	C11D0017-00 [ICM,7]; C11D0007-12 [ICS,7]; C11D0007-20 [ICS,7]; C11D0007-02 [ICS,7,C*]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00

		[I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/294.000; 510/298.000; 510/440.000; 510/445.000; 510/446.000; 510/507.000; 510/509.000; 510/511.000
	ECLA	B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2001014818	IPCI	B01F0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]

AB A solid cleaning solution includes an alkalinity agent and a softener. The alkalinity agent controls the pH of the cleaning composition. The basic cleaning solution attacks the acids in dirt and oil. In a first reaction step, a gas-releasing agent reacts with dirt and oil, gas is released. In a cleaning appliance for washing clothing, dirt and oil would be dislodged from clothing in a removal step due to reaction and the sudden release of gas.

ST carbonate cleaning agent laundry washing

IT Effervescent materials

(autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT Cleaning

(effervescent agents, nondetergent; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT Dispensing apparatus

(for autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT Zeolites (synthetic), uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(water softener; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT 533-96-0, Sodium sesquicarbonate

RL: TEM (Technical or engineered material use); USES (Uses)  
(alkalinity agent; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(effervescent cleaner; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

IT 7631-86-9, Silica, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(solubility control agent; autonomous cleaning gas-releasing carbonate compns. for washing laundry and requiring no rinse cycle)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

(1) Grenier; US 5810043 A 1998 CAPLUS

L1 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 2001:72455 CAPLUS  
DN 134:133435  
ED Entered STN: 31 Jan 2001  
TI Autonomous cleaning mechanism  
IN Caruthers, Eddie Lee, Jr.; Briggs, Eric D.; Corenflos, James A.  
PA Eco-Safe, L.L.C., USA  
SO U.S., 26 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
IC ICM B01F001-00  
INCL 137268000  
CC 47-10 (Apparatus and Plant Equipment)  
Section cross-reference(s): 46, 48

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6178987	B1	20010130	US 1999-437382	19991110
	WO 2001034284	A1	20010517	WO 2000-US30909	20001110
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 2001014818	A	20010606	AU 2001-14818	20001110
PRAI	US 1999-437382	A	19991110		
	US 1999-437532	A	19991110		
	US 1999-438067	A	19991110		
	WO 2000-US30909	W	20001110		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6178987	ICM	B01F001-00
	INCL	137268000
	IPCI	B01F0001-00 [ICM, 7]
	IPCR	A47L0015-44 [I,C*]; A47L0015-44 [I,A]; B01F0001-00 [I,C*]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; D06F0039-02 [I,C*]; D06F0039-02 [I,A]
	NCL	137/268.000; 068/017.000R; 422/264.000
	ECLA	A47L015/44C; B01F001/00F2; C11D003/00B10; C11D003/02H; C11D003/10; C11D003/12G; C11D003/12G2F; C11D011/00F; D06F039/02
WO 2001034284	IPCI	B01F0001-00 [ICM, 7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A];

C11D0003-10 [I,C\*]; C11D0003-10 [I,A]; C11D0003-12 [I,C\*]; C11D0003-12 [I,A]; C11D0011-00 [I,C\*]; C11D0011-00 [I,A]

ECLA B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F

AU 2001014818 IPCI B01F0001-00 [ICM,7]  
 IPCR B01F0001-00 [I,C\*]; B01F0001-00 [I,A]; B01F0005-04 [I,C\*]; B01F0005-04 [I,A]; C11D0003-00 [I,C\*]; C11D0003-00 [I,A]; C11D0003-02 [I,C\*]; C11D0003-02 [I,A]; C11D0003-08 [I,C\*]; C11D0003-08 [I,A]; C11D0003-10 [I,C\*]; C11D0003-10 [I,A]; C11D0003-12 [I,C\*]; C11D0003-12 [I,A]; C11D0011-00 [I,C\*]; C11D0011-00 [I,A]

AB An apparatus, method, and composition provide a long-term, solid cartridge made of cleaning agents mixed at an azeotrope with a solubility limiting agent for controlling an equilibrium concentration of the composition in a solvent, e.g., water. In use, the cleaning agents are dissolved only to a predetd. concentration needed for a single dose of a cleaning appliance, such as a clothes washing machine, for example. The apparatus may be configured to cyclically expose the solid cartridge to the solvent. A dosing amount of the solvent dissolves a pre-determined concentration of cleaning agents, controlled by the solubility limiting agent. The apparatus discharges the dose of cleaning agent to a cleaning appliance, and readies itself again by dissolving a dose of cleaning agent from a surface of the solid cartridge into the solvent. An azeotrope of sodium bicarbonate with amorphous silica provides the cleaning agent and solubility control, with addnl. sodium sesquicarbonate for alkalinity control and zeolite for scavenging hard water ions. The putty-like mixture may be cast, cured, and cooled to form a solid, monolithic charge in a desirable shape for controlling surface area.

ST washing machine autonomous cleaning mechanism

IT Cleaning  
 Detergents  
 Dispensing apparatus  
 Solvents  
 Valves  
 Washing  
 (autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT Zeolites (synthetic), uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT Electric appliances  
 (washing machines; autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT 7631-86-9, Silica, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (amorphous; autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (autonomous cleaning system for dispensing and controlling concentration of cleaning agents delivered into water)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Barford; US 5711920 1998 CAPLUS

(2) Cook; US 3726304 1973

- (3) Denisar; US 5870906 1999
- (4) Grenier; US 5810043 1998 CAPLUS
- (5) Nelli; US 3772193 1973 CAPLUS
- (6) Schneider; US 3507624 1970
- (7) Siragusa; US 5755330 1998
- (8) Spriggs; US 5873268 1999
- (9) Yando; US 5827434 1998 CAPLUS

L1 ANSWER 5 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1996:131963 CAPLUS  
DN 124:189236  
OREF 124:34767a,34770a  
ED Entered STN: 05 Mar 1996  
TI Liquid toner charging mechanisms  
AU Larson, J. R.; Caruthers, E. B.; Gibson, G. A.  
CS Joseph C. Wilson Center for Research and Technology, Xerox Corporation,  
Webster, NY, USA  
SO Denshi Shashin Gakkaishi (1995), 34(4), 415-15  
CODEN: DSHGDD; ISSN: 0387-916X  
PB Denshi Shashin Gakkai  
DT Journal  
LA English  
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
AB Particles dispersed in a low dielec. fluid often become charged by the  
addition of a soluble ionic surfactant (charge director) which aggregates into  
micelles. This particle charging effect is utilized in liquid electrostatic  
toners for imagewise particle deposition on a charged latent image  
enabling electrostatic printing. The charge director micelles ionize to  
form pos. and neg. species which can compete with toner particles of the  
same sign latent image charge. A model for liquid toner particle charging  
and charge director ionization based on a series of reversible equilibrium is  
used to predict liquid toner elec. characteristics which are then compared  
with exptl. findings.  
ST electrostatog liq toner charging mechanism  
IT Electrophotography  
(developer toners, liquid; mechanisms for charging of)  
IT Electrophotographic developers  
(toners, liquid; mechanisms for charging of)

L1 ANSWER 6 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1995:971238 CAPLUS  
DN 124:101649  
OREF 124:18733a,18736a  
ED Entered STN: 08 Dec 1995  
TI Liquid toner particle charging and charge director ionization  
AU Caruthers, E. B.; Gibson, G. A.; Larson, J. R.; Morrison, I. D.;  
Viturro, E. R.  
CS Xerox Corporation, Webster, NY, USA  
SO IS&T's International Congress on Advances in Non-Impact Printing  
Technologies, 10th, New Orleans, Oct. 30-Nov. 4, 1994 (1994), 210-14  
Publisher: IS&T--The Society for Imaging Science and Technology,  
Springfield, Va.  
CODEN: 61WIAD  
DT Conference  
LA English  
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
AB Current models do not account for the full range of elec. behavior observed  
in liquid toners. Particle mobilities, measured by both electroacoustic and  
laser Doppler methods, and conductivities are measured of a com.  
toner-charge director set and their characteristics are found to reflect a

variety of the seemingly divergent behaviors noted by other workers. It is suggested that these behaviors represent aspects of the same underlying mechanism. The relationship of electrokinetic measurements made by ESA and ELS techniques are also discussed.

ST electrophotog liq toner charging; charge director ionization electrophotog liq toner

IT Electric charge

Electric conductivity and conduction

(liquid toner particle charging and charge director ionization)

IT Alkanes, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(C9-12-iso-, liquid toner particle charging and charge director ionization)

IT Electrophotographic developers

(toners, liquid; liquid toner particle charging and charge director ionization)

L1 ANSWER 7 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1995:971237 CAPLUS

DN 124:101648

OREF 124:18733a,18736a

ED Entered STN: 08 Dec 1995

TI Modeling of liquid toner electrical characteristics

AU Caruthers, E. B.; Gibson, G. A.; Larson, J. R.; Morrison, I. D.

CS Joseph C. Wilson Center Technology, Xerox Corporation, Webster, NY, USA

SO IS&T's International Congress on Advances in Non-Impact Printing Technologies, 10th, New Orleans, Oct. 30-Nov. 4, 1994 (1994), 204-9

Publisher: IS&T--The Society for Imaging Science and Technology, Springfield, Va.

CODEN: 61WIAD

DT Conference

LA English

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB Particles in a hydrocarbon fluid often become charged by addition of an ionic surfactant, known as a charge director, which aggregates into micelles in non-polar fluids. This effect is utilized in liquid electrostatic toners for imagewise particle deposition on a charged latent image enabling electrostatic printing. The charge director micelles ionize to form neg. and pos. species which can compete with toner particles of the same sign for latent image charge. A model for liquid toner particle charging and charge director ionization based on a series of reversible equilibrium is used to predict liquid toner elec. characteristics. Liquid toner particle charge, particle electrophoretic mobility, and dispersion conductivity are quant.

calculated

as a function of charge director and particle concentration and fluid viscosity.

The impact of elec. field on charge director micelle ionization and particle charging is also explored.

ST electrophotog liq toner elec characteristic; charge director ionization electrophotog liq

IT Electric charge

Micelles

(model for liquid toner particle charging and charge director ionization)

IT Surfactants

(ionic, model for liquid toner particle charging and charge director ionization)

IT Electrophotographic developers

(toners, liquid; model for liquid toner particle charging and charge director ionization)

L1 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1985:149843 CAPLUS  
 DN 102:149843  
 OREF 102:23573a,23576a  
 ED Entered STN: 04 May 1985  
 TI Cocatalyst effects in ethylene polymerization  
 AU Caruthers, Ed  
 CS Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE,  
 19898, USA  
 SO MMI Press Symposium Series (1983), 4(Transition Met. Catal. Polym.:  
 Alkens Dienes, Pt. B), 751-62  
 CODEN: MPSSDC; ISSN: 0195-3966  
 DT Journal  
 LA English  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 65  
 AB Solid-state band theory and MO and modeling gave no evidence of  
 improvement in electronic properties of  $TiCl_3$  on the addition of  $AlCl_3$  or  
 $MgCl_2$  cocatalysts in  $C_2H_4$  [74-85-1] polymerization The electronic structure  
 of  
 $TiCl_3$  was calculated by replacing a terminal Cl by an alkyl group and  
 coordinating  $C_2H_4$  at an open Ti valence site. Weakening of the double  
 bond associated with coordination gave a net charge of +0.04 electron on  
 $C_2H_4$ , since charge transfer out of the bonding  $\pi$ -level exceeded  
 back-donation into the antibonding  $\pi^*$  level. The greatest charge  
 occurred in occupation of the  $\pi^*$  MO, which jumped to 0.14 as the  
 catalyst began to break the  $C_2H_4$  double bond.  
 ST ethylene polymn cocatalyst effect; catalysis polymn ethylene mechanism;  
 titanium trichloride catalysis MO; aluminum chloride cocatalysis polymn;  
 magnesium chloride cocatalysis polymn  
 IT Electron configuration  
 (of titanium trichloride, in ethene polymerization, cocatalyst effect on)  
 IT Polymerization catalysts  
 (titanium trichloride, for ethene, cocatalyst effect on electronic  
 properties of)  
 IT Double bond  
 (carbon-carbon, of ethene, complexation of, with titanium trichloride  
 in polymerization)  
 IT Energy level  
 (electronic, of titanium trichloride, in ethene polymerization, cocatalyst  
 effect on)  
 IT 7705-07-9, uses and miscellaneous  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for polymerization of ethene, electronic properties of)  
 IT 7446-70-0, uses and miscellaneous 7786-30-3, uses and miscellaneous  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for polymerization of ethene, titanium chloride electronic  
 properties in presence of)  
 IT 74-85-1, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (polymerization of, by titanium trichloride, cocatalyst effect on)  
 L1 ANSWER 9 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1980:221552 CAPLUS  
 DN 92:221552  
 OREF 92:35759a,35762a  
 ED Entered STN: 12 May 1984  
 TI Extended muffin-tin orbital theory applied to the reaction of carbon  
 monoxide - molecular hydrogen on nickel (001)  
 AU Kasowski, R. V.; Caruthers, Ed  
 CS Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE,  
 19898, USA  
 SO Physical Review B: Condensed Matter and Materials Physics (1980), 21(8),

3200-6  
CODEN: PRBMDO; ISSN: 0163-1829

DT Journal  
LA English  
CC 67-2 (Catalysis and Reaction Kinetics)  
Section cross-reference(s): 22, 65  
AB The method using energy bands from a linear combination of muffin-tin orbitals was extended so that the unit cell is now divided into muffin-tin and non-muffin-tin regions, instead of atomic Wigner-Seitz cells. The full potential including the nonspherical contribution to the potential is still included throughout the unit cell. The new method is applied to the interaction of CO + H<sub>2</sub> on Ni(001) surface. Use of 3-dimensional charge-d. plots shows that CO forms C + CO<sub>2</sub> through disproportionation. The Ni(001) surface can break the C-O bond of formaldehyde, but not CO.  
ST extended muffin tin orbital theory; carbon monoxide hydrogen reaction theor; nickel catalysis theor  
IT Disproportionation catalysts  
(nickel, for carbon monoxide, theory of)  
IT Dissociation catalysts  
(nickel, for formaldehyde, theory of)  
IT Catalysts and Catalysis  
(nickel, of carbon monoxide reaction with hydrogen, extended muffin tin orbital theory of)  
IT Methanation catalysts  
(nickel, theory of)  
IT Molecular orbital  
(EMTO, catalytic reaction description by)  
IT 7440-02-0, uses and miscellaneous  
RL: CAT (Catalyst use); USES (Uses)  
(catalysis by, of carbon monoxide reaction with hydrogen, theory of)  
IT 50-00-0, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(dissociation of, theory of nickel catalysis of)  
IT 1333-74-0, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with carbon monoxide on nickel surface, extended muffin tin orbital theory applied to)  
IT 630-08-0, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with hydrogen on nickel surface, extended muffin tin orbital theory applied to)  
  
L1 ANSWER 10 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1980:173018 CAPLUS  
DN 92:173018  
OREF 92:27899a,27902a  
ED Entered STN: 12 May 1984  
TI Band theory of metallic polyacetylene  
AU Kasowski, R. V.; Caruthers, Ed; Hsu, William Y.  
CS Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA  
SO Physical Review Letters (1980), 44(10), 676-9  
CODEN: PRLTAO; ISSN: 0031-9007  
DT Journal  
LA English  
CC 76-2 (Electric Phenomena)  
Section cross-reference(s): 65  
AB Ab initio extended muffin-tin orbital calcns. are presented for trans-polyacetylene heavily doped with AsF<sub>5</sub>, AsF<sub>6</sub>, SbF<sub>6</sub>, or PF<sub>6</sub>. For the hexafluoride dopants, AsF<sub>6</sub> and SbF<sub>6</sub>, hybridization of metal s states with polymer  $\pi$  states produces a partly filled metallic band. This provides a band model of metallic conductivity within and between chains consistent with

anisotropic elec. conductivity This model should also apply to other doped conjugated polymers.

ST cond fluoride dopant polyacetylene; band fluoride dopant polyacetylene

IT Electric conductivity and conduction  
(of polyacetylene doped with Group VA fluoride, energy band theory of)

IT Energy level, band structure  
(of polyacetylene doped with Group VA fluorides, elec. conductivity in relation to)

IT 25067-58-7  
RL: USES (Uses)  
(energy band structure of Group VA fluoride-doped, conductivity in relation to)

IT 7784-36-3 16919-18-9 17111-95-4 25937-98-8  
RL: USES (Uses)  
(energy band structure of polyacetylene doped with, conductivity in relation to)

L1 ANSWER 11 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1978:589779 CAPLUS

DN 89:189779

OREF 89:29325a,29328a

ED Entered STN: 12 May 1984

TI Pseudopotential calculations for ultrathin layer heterostructures

AU Caruthers, Ed; Lin-Chung, P. J.

CS Nav. Res. Lab., Washington, DC, USA

SO Journal of Vacuum Science and Technology (1978), 15(4), 1459-64  
CODEN: JVSTAL; ISSN: 0022-5355

DT Journal

LA English

CC 76-13 (Electric Phenomena)

AB With mol.-beam epitaxy it is possible to fabricate semiconductor heterostructures of the form  $(\text{GaAs})_m - (\text{Ga}_{1-x}\text{Al}_x\text{As})_n$ ,  $1 \leq m, n \leq 10$ , where m and n are the nos. of atomic layers of each kind of material in the alternating semiconductor regions. Energy bands of several of these structures are calculated with new pseudopotentials for Ga, Al, and As. Band discontinuities, localized states, charge ds., and interface charge transfer are found. Densities of states are calculated The results indicate the kinds of expts. which should give the best measure of the disorder at the semiconductor-semiconductor interfaces in these heterostructures.

ST heterojunction pseudopotential energy band; interface state  
heterojunction; charge density heterojunction interface; localized state  
heterojunction interface

IT Pseudopotential  
(for interface state calcns. on ultrathin aluminum gallium arsenide-gallium arsenide heterostructures)

IT Energy level, band structure  
(of ultrathin heterostructures, pseudopotential calcn. of)

IT Energy level, surface  
(d. of states, of ultrathin heterostructures, pseudopotential calcn. of)

IT Semiconductor junctions  
(hetero-, interface states of ultrathin, pseudopotential calcns. of)

IT Energy level  
(localized, of ultrathin heterostructures, pseudopotential calcn. of)

IT Electron configuration  
(surface, of ultrathin heterojunctions, pseudopotential calcn. of)

IT 1303-00-0, properties  
RL: PRP (Properties)  
(interface states of heterojunction of, with aluminum gallium arsenide)

IT 1303-00-0D, solid solns. with aluminum arsenide 22831-42-1D, solid solns. with gallium arsenide

RL: USES (Uses)  
(interface states of heterostructure of gallium arsenide with,  
pseudopotential calcns. for)

L1 ANSWER 12 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1978:197952 CAPLUS  
DN 88:197952  
OREF 88:31003a,31006a  
ED Entered STN: 12 May 1984  
TI Pseudopotential calculations for (gallium arsenide)1-(aluminum arsenide)1  
and related monolayer heterostructures  
AU Caruthers, E.; Lin-Chung, P. J.  
CS Nav. Res. Lab., Washington, DC, USA  
SO Physical Review B: Solid State (1978), 17(6), 2705-18  
CODEN: PLRBAQ; ISSN: 0556-2805  
DT Journal  
LA English  
CC 65-2 (General Physical Chemistry)  
Section cross-reference(s): 75, 76  
AB New atomic pseudopotential form factors were determined for Ga, Al, and As.  
These  
simultaneously fit the energy bands of pure GaAs and AlAs. With these,  
eigenvalues and eigenvectors of the (GaAs)1-(AlAs)1 monolayer  
heterostructure were found and the d. of states, the dielec. functions,  
and the charge d. calculated With the addnl. assumption of the  
virtual-crystal approximation, the composition dependence of the principal  
valence-band maximum and conduction-band min. was found for Ga1-xAlxAs,  
(Ga1-xAlxAs)1-(Al1-xGaxAs)1, and (GaAs)1-(Ga1-xAlxAs). (GaAs)1-(AlAs)1  
has electronic properties which are quite distinct from GaAs, AlAs, and  
Ga0.5Al0.5As. The effects of disorder on the principal band gaps are  
discussed. The theor. results were compared to past expts. and several  
new expts. suggested.  
ST pseudopotential gallium aluminum arsenide; band structure aluminum gallium  
arsenide; eigenvalue aluminum gallium arsenide; eigenvector aluminum  
gallium arsenide; state density aluminum gallium arsenide; dielec function  
aluminum gallium arsenide; electronic property aluminum gallium arsenide;  
disorder band gap arsenide  
IT Dielectric constant and dispersion  
Energy level  
Energy level, band structure  
(of aluminum arsenide and gallium arsenide heterostructures)  
IT Energy level  
(d. of states, of aluminum arsenide and gallium arsenide  
heterostructures)  
IT Order  
(disorder, in aluminum gallium arsenide heterostructures, band gap in  
relation to)  
IT Pseudopotential  
(form factor, of aluminum arsenide and gallium arsenide  
heterostructures)  
IT Energy level, band structure  
(gap, of aluminum arsenide and gallium arsenide heterostructures)  
IT Semiconductor junctions  
(hetero-, aluminum arsenide-gallium arsenide, pseudopotential calcns.  
of properties of)  
IT 1303-00-0, properties  
RL: PRP (Properties)  
(pseudopotential calcn. for aluminum arsenide heterostructure with)  
IT 22831-42-1  
RL: PRP (Properties)  
(pseudopotential calcn. for gallium arsenide heterostructure with)  
IT 1303-00-0D, solid solns. with aluminum arsenide 22831-42-1D, solid

solns. with gallium arsenide  
RL: PRP (Properties)  
(pseudopotential calcn. for heterostructure of)

L1 ANSWER 13 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1977:477352 CAPLUS  
DN 87:77352  
OREF 87:12227a,12230a  
ED Entered STN: 12 May 1984  
TI Electronic structures of gallium arsenide-gallium aluminum arsenide  
(Ga<sub>1-x</sub>Al<sub>x</sub>As) repeated monolayer heterostructure  
AU Caruthers, Ed; Lin-Chung, P. J.  
CS Nav. Res. Lab., Washington, DC, USA  
SO Physical Review Letters (1977), 38(26), 1543-6  
CODEN: PRLTAO; ISSN: 0031-9007  
DT Journal  
LA English  
CC 76-13 (Electric Phenomena)  
Section cross-reference(s): 65  
AB Pseudopotential calcns. are given of the fundamental band gaps for  
heterostructures consisting of alternating monolayers of GaAs and  
Ga<sub>1-x</sub>Al<sub>x</sub>As ( $0 \leq x \leq 1$ ). Significant differences occur  
between the GaAs-AlAs gaps and those of the Ga<sub>0.5</sub>Al<sub>0.5</sub>As random alloy.  
The imaginary part of the dielec. function was calculated for GaAs-AlAs and  
appears consistent with the exptl. reported optical-absorption edge.  
ST band gap gallium aluminum arsenide; dielec gallium aluminum arsenide  
IT Pseudopotential  
(for gallium arsenide-gallium aluminum arsenide heterostructures)  
IT Dielectric constant and dispersion  
(of aluminum gallium arsenide-gallium arsenide heterostructures)  
IT Energy level, band structure  
(gap, calcn. of, of gallium arsenide-gallium aluminum arsenide  
heterostructures)  
IT Semiconductor junctions  
(hetero-, aluminum gallium arsenide-gallium aluminum arsenide,  
pseudopotential calcn. of band gaps of)  
IT 1303-00-0, properties  
RL: PRP (Properties)  
(energy band gap of heterostructure of, with gallium aluminum arsenide)  
IT 1303-00-0D, solid solns. with aluminum arsenide 22831-42-1D, solid  
solns. with gallium arsenide  
RL: PRP (Properties)  
(energy band gap of, in heterostructure with gallium arsenide)

L1 ANSWER 14 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1977:22020 CAPLUS  
DN 86:22020  
OREF 86:3485a,3488a  
ED Entered STN: 12 May 1984  
TI Energy bands of (110) copper thin films  
AU Sohn, K. S.; Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed  
CS Dep. Phys., Univ. Texas, Austin, TX, USA  
SO Physical Review B: Solid State (1976), 14(8), 3193-200  
CODEN: PLRBAQ; ISSN: 0556-2805  
DT Journal  
LA English  
CC 65-2 (General Physical Chemistry)  
AB A tight-binding calcn. of the energy bands of a 47-layer (110) Cu thin  
film was done by using the set of 34 Hamiltonian-matrix-element parameters  
used previously (S., et al., 1976) in calcns. on a (100) thin film. The  
bands were calculated at 88 points in the irreducible 1/4 rectangular  
2-dimensional Brillouin zone both with and without a surface-parameter

shift. The planar and total ds. of states are presented. The energy bands display a wealth of surface bands whose exact nature is sensitive to surface-parameter shifts.

ST copper film energy band; band structure copper film

IT Energy level, band structure

(of copper thin film, tight-binding calcn. of)

IT 7440-50-8, properties

RL: PRP (Properties)

(energy level band structure of thin film of, tight-binding calcn. of)

L1 ANSWER 15 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1977:22019 CAPLUS

DN 86:22019

OREF 86:3485a,3488a

ED Entered STN: 12 May 1984

TI Energy bands of (111) copper thin films

AU Sohn, K. S.; Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 14(8), 3185-92

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB A tight-binding calcn. of the energy bands of a 30-layer (111) Cu thin film was done by using the set of 34 Hamiltonian-matrix-element parameters used previously (K. S. S., et al., 1976) in calcns. on a (100) thin film. The bands were calculated at 61 points in the irreducible (1/12) 2-dimensional Brillouin zone (2D BZ) both with and without a surface-parameter shift. The planar and total ds. of states are presented. A free-electron-like surface state was found that lies well above the Fermi energy (EF) independently of the surface-parameter shift. P. O. Gartland and B. J. Slagsvold (1975) inferred from their photoelec. data that this (or perhaps another surface state in the same region of the 2D BZ) lies below EF; their interpretation of the data might be incorrect.

ST copper film energy band; band structure copper film

IT Energy level, band structure

(of copper thin film, tight-binding calcn. of)

IT 7440-50-8, properties

RL: PRP (Properties)

(energy level band structure of thin film of, tight-binding calcn. of)

L1 ANSWER 16 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:549319 CAPLUS

DN 85:149319

OREF 85:23879a,23882a

ED Entered STN: 12 May 1984

TI Ab initio calculation of the energy bands of (001) iron thin films

AU Caruthers, Ed; Dempsey, D. G.; Kleinman, Leonard

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 14(2), 288-97

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB Constructing a warped-muffin-tin potential from a superposition of 3d 74s1 atomic charge ds. and the Slater exchange approximation, the energy bands were calculated of a 13-layer (001) paramagnetic Fe thin film using the supplemented orthogonalized-plane-wave method. The bands are compared with a previous parametrized LCAO calcn. Hybridized and unhybridized surface states are discussed and plots of wave functions of each kind are displayed. The planar average of the calculated charge is displayed and the possibility of a large d-electron contribution to the surface Friedel

oscillation is discussed.

ST energy band iron thin film

IT Quantum mechanics  
 (ab initio calcn. with warped-muffin-tin potential, for energy bands of iron thin films)

IT Energy level, band structure  
 (of iron thin films, ab initio calcn. of)

IT Potential energy and function  
 (warped-muffin-tin, in ab initio calcn. of energy bands of iron thin films)

IT 7439-89-6, properties  
 RL: PRP (Properties)  
 (energy bands of thin films of, ab initio calcn. of)

L1 ANSWER 17 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:549318 CAPLUS

DN 85:149318

OREF 85:23879a,23882a

ED Entered STN: 12 May 1984

TI Energy bands of a (111) iron thin film

AU Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 14(2), 279-87  
 CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB A tight-binding calcn. was made of the energy bands of a 40-layer (111) ferromagnetic Fe thin film. The matrix parameters were obtained by fitting a bulk calcn. of Tawil and Callaway with the diagonal matrix elements of the layers near the surface shifted to obtain surface charge neutrality. The energy bands were calculated at 61 points in the irreducible (1/12) 2-dimensional Brillouin zone. The planar and total ds. of states are determined and compared to previous results. The differences between the apparent surface potential on this face of Fe compared to the (100) and (110) faces are examined and discussed. Correlations between the energy-band structure and the planar ds. of states are examined

ST energy band iron thin film

IT Energy level, band structure  
 (of iron thin films)

IT Quantum mechanics  
 (tight-binding approximation, in energy band calcn. of iron thin films)

IT 7439-89-6, properties  
 RL: PRP (Properties)  
 (energy band of thin films of)

L1 ANSWER 18 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:140913 CAPLUS

DN 84:140913

OREF 84:22875a,22878a

ED Entered STN: 12 May 1984

TI Energy bands of (100) copper thin films

AU Sohn, K. S.; Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 13(4), 1515-22  
 CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB A tight-binding calcn. is reported for the energy bands of a 33-layer (100) Cu thin film. Thirty-four parameters for the Hamiltonian matrix were obtained by fitting 214 energy levels in the bulk energy bands. The

2-dimensional energy bands were calculated at 576 points in the 2-dimensional Brillouin zone (2DBZ) with and without a surface-parameter shift. The planar and total ds. of states are presented. Results disagree with those of S. J. Gurman and J. B. Pendry (1973) by having surface states over a larger range of energies and by having surface states at the .hivin.M point of the 2DBZ.

ST energy band copper thin film

IT Energy level, band structure

Energy level, surface

(of copper thin films)

IT 7440-50-8, properties

RL: PRP (Properties)

(energy bands of thin films of)

L1 ANSWER 19 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:140912 CAPLUS

DN 84:140912

OREF 84:22875a,22878a

ED Entered STN: 12 May 1984

TI Energy bands of a (110) iron thin film

AU Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1976), 13(4), 1489-97

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

Section cross-reference(s): 77

AB A tight-binding calcn. was performed for the energy bands of a 29-layer (110) ferromagnetic iron thin film. The matrix parameters were obtained by fitting a bulk calcn. with the diagonal surface matrix elements shifted by a constant amount to obtain surface charge neutrality. The energy bands were calculated at 117 points in the irreducible (one fourth) 2-dimensional Brillouin zone. The planar and total ds. of states are also reported and compared to previous results. A discussion of the surface states and energy bands is given and the structure of the energy bands is correlated to structure seen in the planar d. of states and the effects of s-d hybridization.

ST energy band iron thin film; surface energy iron thin film

IT Magnetic substances

(ferro-, iron thin films, energy bands of)

IT Energy level, band structure

Energy level, surface

(of iron thin films)

IT 7439-89-6, properties

RL: PRP (Properties)

(energy bands of thin films of)

L1 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:50025 CAPLUS

DN 84:50025

OREF 84:8181a,8184a

ED Entered STN: 12 May 1984

TI Energy bands of (100) iron thin films

AU Dempsey, D. G.; Kleinman, Leonard; Caruthers, Ed

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1975), 12(8), 2932-42

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB A tight-binding calcn. was done on the energy bands of a (41-layer)-thick

ferromagnetic (100) Fe film. The 23 matrix-element parameters (for each spin) were obtained by fitting the bulk energy bands, calculated by R. A. Tawil and J. Calloway (1973), at a large number of points. The diagonal matrix-element parameters for the surface layers were then shifted by a constant amount to make the surface charge neutral. The energy bands were calculated at 256 points in the 2-dimensional Brillouin zone (BZ) and the planar and total ds. of states calculated. A detailed discussion is given of the surface states and resonances throughout the 2-dimensional BZ.

ST ferromagnetic iron film energy band; surface state iron film  
IT Energy level, band structure  
Energy level, surface  
(of iron ferromagnetic film, tight-binding calcn. of)  
IT 7439-89-6, properties  
RL: PRP (Properties)  
(energy level band structure of ferromagnetic film of, tight-binding calcn. of)

L1 ANSWER 21 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1975:583758 CAPLUS

DN 83:183758

OREF 83:28822h,28823a

ED Entered STN: 12 May 1984

TI Effects of different potentials on iron surface states

AU Caruthers, Ed; Kleinman, Leonard

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review Letters (1975), 35(11), 738-40

CODEN: PRLTAO; ISSN: 0031-9007

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB First-principles calcns. are reported of surface states at the center (.hivin.Γ) for a (001) Fe thin film. Four different potentials were investigated. The existence and symmetry of surface states depends crucially on details of the potential. For the potential which is most phys. a surface state is found which peaks more than one-half layer outside the last plane of atoms.

ST iron surface state potential; energy level iron surface

IT Energy level, surface

(of iron films, effect of different potentials on)

IT Potential energy and function

(surface energy levels of iron in relation to)

IT 7439-89-6, properties

RL: PRP (Properties)

(surface energy levels of, effect of different potentials on)

L1 ANSWER 22 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1975:21979 CAPLUS

DN 82:21979

OREF 82:3467a,3470a

ED Entered STN: 12 May 1984

TI Projected surface energy bands of body centered cubic iron

AU Caruthers, Ed; Kleinman, Leonard

CS Dep. Phys., Univ. TEXas, Austin, TX, USA

SO Physical Review B: Solid State (1974), 10(2), 376-81

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

AB The 3-dimensional energy bands given by J. H. Wood (1962) for paramagnetic Fe were projected to obtain band gaps in the 2-dimensional energy bands for the (001) and (110) surfaces of paramagnetic Fe. Extensive band gaps show the possibility that many surface states exist. The most important

surface states probably exist well away from the center of the 2-dimensional Brillouin zone, and might explain the existence of magnetically dead layers at surfaces of Fe and Ni.

ST paramagnetic iron surface state; iron surface energy band

IT Energy level, band structure

Energy level, surface

(of paramagnetic iron)

IT 7439-89-6, properties

RL: PRP (Properties)

(surface energy bands of paramagnetic body centered cubic)

L1 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1974:559079 CAPLUS

DN 81:159079

OREF 81:24579a,24582a

ED Entered STN: 12 May 1984

TI Effects of the potential on surface states

AU Caruthers, Ed; Kleinman, Leonard; Alldredge, Gerald P.

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1974), 10(4), 1252-4

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

Section cross-reference(s): 66

AB Surface states are calculated for high-symmetry points in the Brillouin zone of a (001) Al film by using a pure overlap potential and a Cambridge potential. Results are compared with those of previous calcs. to see how surface states are affected by the differences in potential. Behavior of the potential over the last few occupied layers is more important than the way the potential goes to zero outside the jellium edge. The range of validity of the Cambridge model of the potential is discussed.

ST surface energy level calcn potential; aluminum surface energy level potential

IT Brillouin zone

(of aluminum, potential energy and surface energy levels in relation to)

IT Energy level, surface

(potential energy in relation to calcn. of)

IT Potential energy and function

(surface energy level calcn. in relation to)

IT 7429-90-5, properties

RL: PRP (Properties)

(surface energy levels of films of, Brillouin zone and potential energy in relation to)

L1 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1974:441606 CAPLUS

DN 81:41606

OREF 81:6625a,6628a

ED Entered STN: 12 May 1984

TI Electronic surface states on (111) aluminum

AU Caruthers, Ed; Kleinman, Leonard; Aldredge, Gerald P.

CS Dep. Phys., Univ. Texas, Austin, TX, USA

SO Physical Review B: Solid State (1974), 9(8), 3330-6

CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal

LA English

CC 65-2 (General Physical Chemistry)

Section cross-reference(s): 71, 73

AB The projection was calculated of the 3-dimensional energy bands of Al onto the 2-dimensional Brillouin zone (BZ) of the (111) crystallog. face. By using

a pseudopotential constructed with the previously described method (C., et al., 1973-74), the eigenvalues and eigenfunctions were calculated at high-symmetry points of the 2-dimensional BZ for (111) thin films. Unlike D. S. Boudreaux (1971) who found surface states only in the gap around the symmetry point  $\Gamma$ -, surface states were found that exist in all energy gaps of the projected bands at the  $\Gamma$ -, M.hivin., and K.hivin. symmetry points of the 2-dimensional BZ. Surface states probably always exist in the projected energy gaps of low-index surfaces of simple metals. A surface eigenfunction was found that decays inwardly from 1 surface toward the other; heretofore, all surface states found decay inwardly from both surfaces toward the center of the film.

ST electronic surface state aluminum; Brillouin zone surface aluminum  
IT Brillouin zone  
    (electronic surface types of aluminum in relation to)  
IT Wave function  
    (for electronic surface types of aluminum, Brillouin zone in relation to)  
IT Energy level, surface  
    (of aluminum, Brillouin zone in relation to)  
IT 7429-90-5, properties  
RL: PRP (Properties)  
    (electronic surface states on (111))

L1 ANSWER 25 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1974:441605 CAPLUS  
DN 81:41605  
OREF 81:6625a,6628a  
ED Entered STN: 12 May 1984  
TI Electronic surface states on (110) aluminum  
AU Caruthers, Ed; Kleinman, Leonard; Aldredge, Gerald P.  
CS Dep. Phys., Univ. Texas, Austin, TX, USA  
SO Physical Review B: Solid State (1974), 9(8), 3325-9  
CODEN: PLRBAQ; ISSN: 0556-2805

DT Journal  
LA English  
CC 65-2 (General Physical Chemistry)  
Section cross-reference(s): 71, 73

AB The projection was calculated of the 3-dimensional energy bands of Al onto the 2-dimensional Brillouin zone (BZ) of the (110) crystallog. face. By using a pseudopotential constructed with the previously described method (C., et al., 1973), the eigenvalues and eigenfunctions were calculated at high-symmetry points of the 2-dimensional BZ for (110) thin films. Contrary to the results of D. S. Boudreaux (1971) who found no (110) surface states, surface states were found that exist in the energy gaps of the projected bands at all high-symmetry points ( $\Gamma$ .hivin., Y.hivin., S.hivin., and X.hivin.) of the 2-dimensional BZ.

ST electronic surface state aluminum; Brillouin zone surface aluminum  
IT Brillouin zone  
    (electronic surface states of aluminum in relation to)  
IT Wave function  
    (for electronic surface types of aluminum, Brillouin zone in relation to)  
IT Energy level, surface  
    (of aluminum, Brillouin zone in relation to)  
IT 7429-90-5, properties  
RL: PRP (Properties)  
    (electronic surface states on (110))

L1 ANSWER 26 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1974:64586 CAPLUS  
DN 80:64586  
OREF 80:10435a,10438a

ED Entered STN: 12 May 1984  
 TI Energy bands for the (001) surface of aluminum  
 AU Caruthers, Ed; Kleinman, Leonard; Alldredge, Gerald P.  
 CS Dep. Phys., Univ. Texas, Austin, TX, USA  
 SO Physical Review B: Solid State (1973), 8(10), 4570-7  
 CODEN: PLRBAQ; ISSN: 0556-2805  
 DT Journal  
 LA English  
 CC 70-4 (Crystallization and Crystal Structure)  
 Section cross-reference(s): 65  
 AB An energy-band calcn. was performed on a 13-layer film of (001) Al.  
 Surface states are found at  $\Gamma$ .hivin., M.hivin., and X.hivin.  
 in the 2-dimensional Brillouin zone, and along the lines connecting these  
 points. Wave functions are plotted and decay consts. tabulated for some  
 of these surface states. The charge d. in the [001] direction has also  
 been plotted for various positions in the planar unit cell, and for an average  
 over the unit cell. Finally, the 13-layer energy bands are compared to a  
 (001) projection of the 3-dimensional energy bands, and effects of film  
 thickness as well as the surface perturbation are shown.  
 ST surface energy band aluminum  
 IT Energy level, surface  
 (of aluminum films, effect of thickness of)  
 IT 7429-90-5, properties  
 RL: PRP (Properties)  
 (surface states of films of, effect of thickness of)  
  
 L1 ANSWER 27 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1973:436323 CAPLUS  
 DN 79:36323  
 OREF 79:5879a,5882a  
 ED Entered STN: 12 May 1984  
 TI Energy bands of semiconducting vanadium dioxide  
 AU Caruthers, Ed; Kleinman, Leonard  
 CS Dep. Phys., Univ. Texas, Austin, TX, USA  
 SO Physical Review B: Solid State (1973), 7(8), 3760-6  
 CODEN: PLRBAQ; ISSN: 0556-2805  
 DT Journal  
 LA English  
 CC 71-13 (Electric Phenomena)  
 AB For  $T > T_t$  .simeq.68°, VO<sub>2</sub> is a metal with the rutile structure.  
 For  $T < T_t$ , VO<sub>2</sub> is a semiconductor with a monoclinic structure.  
 Semiconducting energy bands for the low-temperature structure were found from a  
 parametrized tight-binding LCAO calcn. The semiconducting gap results not  
 only from the reduced symmetry of the monoclinic phase, but also from  
 changes in the tight-binding parameters which result from changed interat.  
 distances. The joint d. of states derived from the calcn. is in very good  
 agreement with exptl. optical data. The success of this calcn. shows  
 that, given the crystal structure, the semiconducting band gap is  
 completely understandable in terms of 1-electron theory. The group theory  
 of this structure is discussed.  
 ST energy band vanadium oxide; semiconducting vanadium oxide; band structure  
 vanadium oxide  
 IT Energy level, band structure  
 (of vanadium dioxide semiconductor monoclinic phase)  
 IT Electric conductivity and conduction  
 (transition in, of vanadium dioxide)  
 IT Semiconductor materials  
 (vanadium dioxide monoclinic phase, energy band structure of)  
 IT 12036-21-4  
 RL: USES (Uses)  
 (energy band structure of semiconducting)

L1 ANSWER 28 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1973:152709 CAPLUS  
 DN 78:152709  
 OREF 78:24499a,24502a  
 ED Entered STN: 12 May 1984  
 TI Energy bands of metallic vanadium dioxide  
 AU Caruthers, Ed.; Kleinman, Leonard; Zhang, H. I.  
 CS Dep. Phys., Univ. Texas, Austin, TX, USA  
 SO Physical Review B: Solid State (1973), 7(8), 3753-60  
 CODEN: PLRBAQ; ISSN: 0556-2805  
 DT Journal  
 LA English  
 CC 71-2 (Electric Phenomena)  
 Section cross-reference(s): 65  
 AB At 68°, VO<sub>2</sub> undergoes a phase transition from a semi-conductor with  
 monoclinic structure to a rather poor metal with the rutile structure. A  
 modified augmented-plane-wave (APW) calcn. was made for the metal phase,  
 using a semiempirical potential chosen to give agreement with the exptl.  
 determined energy difference between the top of the O2p band and the Fermi  
 surface. A tight-binding parametrized LCAO calcn. was fitted to the 3  
 points in the Brillouin zone where APW energy levels were calculated, and the  
 resultant energy bands and d. of states are presented. The poor conductivity  
 is probably due to the flatness of the lower d bands (and perhaps correlation  
 effects) and not to any semimetallic nature of the energy bands. The MO  
 picture of rutile TiO<sub>2</sub> and VO<sub>2</sub> is also discussed.  
 ST energy band vanadium oxide; band structure vanadium oxide; phase change  
 vanadium oxide; semiconductor metal transition oxide  
 IT Molecular orbital  
 (of titanium dioxide and vanadium dioxide)  
 IT Brillouin zone  
 (of vanadium dioxide)  
 IT Energy level, band structure  
 (of vanadium dioxide, metallic-type elec. conductivity in relation to)  
 IT Electric conductivity and conduction  
 (transitions in, in vanadium dioxide)  
 IT 12036-21-4  
 RL: PRP (Properties)  
 (energy level band structure of, with metallic-type elec. conductivity)  
 IT 13463-67-7, properties  
 RL: PRP (Properties)  
 (mol. orbitals of)

=> e cook cory/au

E1	1	COOK COLWELL ANN/AU
E2	1	COOK CONAN P/AU
E3	0 -->	COOK CORY/AU
E4	3	COOK CORY E/AU
E5	1	COOK COURTNEY/AU
E6	1	COOK COURTNEY F/AU
E7	3	COOK COURTNEY FREDERICK/AU
E8	1	COOK CRAGUE E/AU
E9	6	COOK CRAIG/AU
E10	6	COOK CRAIG R/AU
E11	1	COOK CRAIG RALPH/AU
E12	3	COOK CRAIG S/AU

=> s e4;d 1-3 all

L2 3 "COOK CORY E"/AU

L2 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2008:418572 CAPLUS  
 ED Entered STN: 03 Apr 2008  
 TI Underground trampoline ring design  
 IN Burnham, Tracy; Evans, K. Donald; Muller, Mark; Leopold, Jerry; Cook, Cory E.  
 PA USA  
 SO U.S. Pat. Appl. Publ.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 INCL 482029000; 052741130  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20080081739	A1	20080403	US 2007-857595	20070919
PRAI	US 2007-857595		20070919		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20080081739	INCL	482029000; 052741130
	IPCI	A63B0005-11 [I,A]; A63B0005-00 [I,C*]; E04B0001-28 [I,A]
	NCL	482/029.000; 052/741.130

AB An in-ground trampoline system configured to provide a ground level jumping surface which consists of a trampoline, a pit, and a segmented retaining wall configured to support the walls of the pit.

L2 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2007:1120593 CAPLUS  
 DN 147:429231  
 ED Entered STN: 05 Oct 2007  
 TI Multiuse, solid cleaning device and composition  
 IN Evans, K. Donald; Cook, Cory E.  
 PA Eco-Safe Technologies, L.L.C., USA  
 SO U.S. Pat. Appl. Publ., 38pp., Cont.-in-part of U.S. Ser. No. 597,837/  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 INCL 510445000  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070232517	A1	20071004	US 2006-535896	20060927
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	US 20050130868	A1	20050616	US 2004-925331	20040824
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	US 20070184998	A1	20070809	US 2006-597837	20060809
PRAI	US 2004-775264	A2	20040210		
	US 2004-925331	A2	20040824		
	WO 2005-US4133	W	20050210		
	US 2006-597837	A2	20060809		
	US 1999-437532	A3	19991110		
	US 2002-144331	A2	20020513		
	US 2003-448239P	P	20030218		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20070232517	INCL	510445000
	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20050130868	IPCI	C11D0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000

AB A multiuse cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of wash and rinse cycles. The cleaning agent includes a gas-releasing component and potassium silicate as a solubility control component to limit the solubility of the cleaning agent. The cleaning agent may include other ingredients such as an alkalinity agent as a pH regulator, a water softener to solvate metal ions in a solution of water, an optical brightener, an anti-redeposition agent, fragrances, surfactants, and other ingredients. Controlled dissoln. of

the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous enclosure may be disposed around the solid cleaning agent.

ST solid cleaning device compn; potassium silicate zeolite cleaning device

IT Carbonates, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(alkali metal; multiuse, solid laundry cleaning device and composition)

IT Alkali metal compounds

RL: TEM (Technical or engineered material use); USES (Uses)

(carbonates; multiuse, solid laundry cleaning device and composition)

IT Detergents

(cleaning compns.; multiuse, solid laundry cleaning device and composition)

IT Detergents

(laundry, solid device, multiuse; multiuse, solid laundry cleaning device and composition)

IT Fluorescent brighteners

Perfumes

Surfactants

(multiuse, solid laundry cleaning device and composition)

IT Alkali metal hydrides

Alkali metal hydroxides

Alkali metal oxides

Synthetic rubber, uses

Zeolites (synthetic), uses

RL: TEM (Technical or engineered material use); USES (Uses)

(multiuse, solid laundry cleaning device and composition)

IT 497-19-8, Sodium carbonate, uses 994-36-5, Sodium citrate 1303-96-4, Borax 1310-73-2, Sodium hydroxide, uses 1312-76-1, Potassium silicate 3313-92-6, Sodium percarbonate 9000-11-7, Carboxymethyl cellulose 10332-33-9, Sodium perborate monohydrate

RL: TEM (Technical or engineered material use); USES (Uses)

(multiuse, solid laundry cleaning device and composition)

L2 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:527371 CAPLUS

DN 143:45326

ED Entered STN: 19 Jun 2005

TI Multiuse, solid cleaning device and composition

IN Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie

PA USA

SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.

CODEN: USXXCO

DT Patent

LA English

IC ICM C11D001-00

INCL 510459000

CC 46-5 (Surface Active Agents and Detergents)

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050130868	A1	20050616	US 2004-925331	20040824
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
 MR, NE, SN, TD, TG

EP 1725648 A2 20061129 EP 2005-713227 20050210  
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA,  
 HR, LV, MK, YU

CN 1918276 A 20070221 CN 2005-80004598 20050210  
 BR 2005007493 A 20070710 BR 2005-7493 20050210  
 JP 2007522326 T 20070809 JP 2006-553208 20050210  
 KR 2007009560 A 20070118 KR 2006-715949 20060807  
 MX 2006PA08945 A 20070126 MX 2006-PA8945 20060807  
 US 20070184998 A1 20070809 US 2006-597837 20060809  
 US 20070232517 A1 20071004 US 2006-535896 20060927

PRAI US 1999-437532 A3 19991110  
 US 2002-144331 A2 20020513  
 US 2003-448239P P 20030218  
 US 2004-775264 A2 20040210  
 US 2004-925331 A 20040824  
 WO 2005-US4133 W 20050210  
 US 2006-597837 A2 20060809

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20050130868	ICM	C11D001-00
	INCL	510459000
	IPCI	C11D0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]

		[I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08

[I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A];  
C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39  
[I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C];  
C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50  
[I,A]; C11D0011-00 [I,C\*]; C11D0011-00 [I,A];  
C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02  
[I,C]; D06F0039-02 [I,A]

FTERM 3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01;  
3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00;  
3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46;  
3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21;  
4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05;  
4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16;  
4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13;  
4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28

KR 2007009560 IPCI B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00  
[I,A]; C11D0003-00 [I,A]

MX 2006PA08945 IPCI B01F0001-00 [I,C\*]; C11D0003-02 [I,C\*]

US 20070184998 IPCI C11D0003-395 [I,A]

NCL 510/302.000

US 20070232517 IPCI C11D0017-00 [I,A]

IPCR C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04  
[I,C\*]; C11D0017-04 [I,A]

NCL 510/445.000

ECLA C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;  
C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous  
quantity of cleaning agent configured to be disposed within a laundry  
cleaning machine tub and to dissolve and release a substantially  
consistent quantity of cleaning agent over a plurality of laundry wash and  
rinse cycles. The cleaning agent includes a gas-releasing component,  
potassium silicate as a solubility control component to limit the solubility  
of the  
cleaning agent, an alkalinity agent as a pH regulator, and a water softener to  
solvate metal ions in a solution of water. Controlled dissoln. of the  
cleaning agent composition releases a desired quantity of cleaning agent in  
each cleaning cycle over a plurality of cycles. A porous covering or bag  
may be disposed around the solid cleaning agent. Thus, a multiuse laundry  
cleaning device comprises 42% to 52% by weight sodium perborate monohydrate  
as the gas-releasing component, 35% to 45% by weight potassium silicate as  
the solubility control component, 1% to 5% by weight zeolite as the water  
softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to  
3%  
by weight of a optical brightener, 1 to 5% by weight of a fragrance component;  
and 0.5 to 3% by weight of an anti-redeposition component.

ST sodium perborate monohydrate potassium silicate zeolite cleaning device;  
solid cleaning compn sodium hydroxide

IT Detergents  
(laundry, solid; multiuse, solid cleaning device and composition)

IT Zeolite-group minerals  
Zeolites (synthetic), uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(water softener; multiuse, solid cleaning device and composition)

IT 1310-73-2, Sodium hydroxide, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(alkalinity agent; multiuse, solid cleaning device and composition)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses  
10332-33-9, Sodium perborate monohydrate 15630-89-4, Sodium percarbonate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(gas-releasing component; multiuse, solid cleaning device and composition)

IT 1312-76-1, Potassium silicate  
RL: TEM (Technical or engineered material use); USES (Uses)

(solubility control component; multiuse, solid cleaning device and composition)

=> e evans k/au

E1 1 EVANS JUSTIN/AU  
E2 1 EVANS JUSTIN R/AU  
E3 82 --> EVANS K/AU  
E4 36 EVANS K A/AU  
E5 2 EVANS K ALEX/AU  
E6 4 EVANS K ALLISON/AU  
E7 1 EVANS K ANDREW/AU  
E8 2 EVANS K B/AU  
E9 3 EVANS K C/AU  
E10 24 EVANS K D/AU  
E11 3 EVANS K DONALD/AU  
E12 93 EVANS K E/AU

=> s e10 or e11

24 "EVANS K D"/AU  
3 "EVANS K DONALD"/AU  
L3 27 "EVANS K D"/AU OR "EVANS K DONALD"/AU

=> d 1-27 all

L3 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 2008:418572 CAPLUS  
ED Entered STN: 03 Apr 2008  
TI Underground trampoline ring design  
IN Burnham, Tracy; Evans, K. Donald; Muller, Mark; Leopold, Jerry;  
Cook, Cory E.  
PA USA  
SO U.S. Pat. Appl. Publ.  
CODEN: USXXCO  
DT Patent  
LA English  
INCL 482029000; 052741130  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20080081739	A1	20080403	US 2007-857595	20070919
PRAI	US 2007-857595		20070919		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20080081739	INCL	482029000; 052741130
	IPCI	A63B0005-11 [I,A]; A63B0005-00 [I,C*]; E04B0001-28 [I,A]
	NCL	482/029.000; 052/741.130

AB An in-ground trampoline system configured to provide a ground level jumping surface which consists of a trampoline, a pit, and a segmented retaining wall configured to support the walls of the pit.

L3 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 2007:1120593 CAPLUS  
DN 147:429231  
ED Entered STN: 05 Oct 2007  
TI Multiuse, solid cleaning device and composition  
IN Evans, K. Donald; Cook, Cory E.  
PA Eco-Safe Technologies, L.L.C., USA  
SO U.S. Pat. Appl. Publ., 38pp., Cont.-in-part of U.S. Ser. No. 597,837/  
CODEN: USXXCO

DT Patent  
 LA English  
 INCL 510445000  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070232517	A1	20071004	US 2006-535896	20060927
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	US 20050130868	A1	20050616	US 2004-925331	20040824
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,			SM
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 20070184998	A1	20070809	US 2006-597837	20060809
PRAI	US 2004-775264	A2	20040210		
	US 2004-925331	A2	20040824		
	WO 2005-US4133	W	20050210		
	US 2006-597837	A2	20060809		
	US 1999-437532	A3	19991110		
	US 2002-144331	A2	20020513		
	US 2003-448239P	P	20030218		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20070232517	INCL	510445000
	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20050130868	IPCI	C11D0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*];

C11D0011-00 [I,A]  
 NCL 510/459.000  
 ECLA B01F001/00F2; B01F005/04C18; C11D003/00B10;  
 C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F;  
 C11D011/00F  
 WO 2005077064 IPCI C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00  
 [I,A]; C11D0017-06 [I,A]  
 IPCR C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04  
 [I,C\*]; C11D0017-04 [I,A]; C11D0017-06 [I,C];  
 C11D0017-06 [I,A]  
 ECLA C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;  
 C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H  
 US 20070184998 IPCI C11D0003-395 [I,A]  
 NCL 510/302.000

AB A multiuse cleaning device in a solid state containing a homogeneous quantity  
 of cleaning agent configured to dissolve and release a substantially  
 consistent quantity of cleaning agent over a plurality of wash and rinse  
 cycles. The cleaning agent includes a gas-releasing component and  
 potassium silicate as a solubility control component to limit the solubility  
 of the  
 cleaning agent. The cleaning agent may include other ingredients such as  
 an alkalinity agent as a pH regulator, a water softener to solvate metal ions  
 in a solution of water, an optical brightener, an anti-redeposition agent,  
 fragrances, surfactants, and other ingredients. Controlled dissoln. of  
 the cleaning agent composition releases a desired quantity of cleaning agent in  
 each cleaning cycle over a plurality of cycles. A porous enclosure may be  
 disposed around the solid cleaning agent.  
 ST solid cleaning device compn; potassium silicate zeolite cleaning device  
 IT Carbonates, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (alkali metal; multiuse, solid laundry cleaning device and composition)  
 IT Alkali metal compounds  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (carbonates; multiuse, solid laundry cleaning device and composition)  
 IT Detergents  
 (cleaning compns.; multiuse, solid laundry cleaning device and composition)  
 IT Detergents  
 (laundry, solid device, multiuse; multiuse, solid laundry cleaning  
 device and composition)  
 IT Fluorescent brighteners  
 Perfumes  
 Surfactants  
 (multiuse, solid laundry cleaning device and composition)  
 IT Alkali metal hydrides  
 Alkali metal hydroxides  
 Alkali metal oxides  
 Synthetic rubber, uses  
 Zeolites (synthetic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (multiuse, solid laundry cleaning device and composition)  
 IT 497-19-8, Sodium carbonate, uses 994-36-5, Sodium citrate 1303-96-4,  
 Borax 1310-73-2, Sodium hydroxide, uses 1312-76-1, Potassium silicate  
 3313-92-6, Sodium percarbonate 9000-11-7, Carboxymethyl cellulose  
 10332-33-9, Sodium perborate monohydrate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (multiuse, solid laundry cleaning device and composition)

L3 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2005:527371 CAPLUS  
 DN 143:45326  
 ED Entered STN: 19 Jun 2005  
 TI Multiuse, solid cleaning device and composition

IN Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie  
 PA USA  
 SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C11D001-00  
 INCL 510459000  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050130868	A1	20050616	US 2004-925331	20040824
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1725648	A2	20061129	EP 2005-713227	20050210
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				
	CN 1918276	A	20070221	CN 2005-80004598	20050210
	BR 2005007493	A	20070710	BR 2005-7493	20050210
	JP 2007522326	T	20070809	JP 2006-553208	20050210
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	MX 2006PA08945	A	20070126	MX 2006-PA8945	20060807
	US 20070184998	A1	20070809	US 2006-597837	20060809
	US 20070232517	A1	20071004	US 2006-535896	20060927
PRAI	US 1999-437532	A3	19991110		
	US 2002-144331	A2	20020513		
	US 2003-448239P	P	20030218		
	US 2004-775264	A2	20040210		
	US 2004-925331	A	20040824		
	WO 2005-US4133	W	20050210		
	US 2006-597837	A2	20060809		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20050130868	ICM	C11D001-00
	INCL	510459000
	IPCI	C11D0001-00 [ICM, 7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12

		[I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*];

WO 2005077064	IPCI	C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A] C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08 [I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A]; C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39 [I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C]; C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
	FTERM	3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to be disposed within a laundry cleaning machine tub and to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of laundry wash and rinse cycles. The cleaning agent includes a gas-releasing component, potassium silicate as a solubility control component to limit the solubility of the

cleaning agent, an alkalinity agent as a pH regulator, and a water softener to solvate metal ions in a solution of water. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous covering or bag may be disposed around the solid cleaning agent. Thus, a multiuse laundry

cleaning device comprises 42% to 52% by weight sodium perborate monohydrate as the gas-releasing component, 35% to 45% by weight potassium silicate as the solubility control component, 1% to 5% by weight zeolite as the water softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to 3% by weight of a optical brightener, 1 to 5% by weight of a fragrance component; and 0.5 to 3% by weight of an anti-redeposition component.

ST sodium perborate monohydrate potassium silicate zeolite cleaning device; solid cleaning compn sodium hydroxide

IT Detergents  
(laundry, solid; multiuse, solid cleaning device and composition)

IT Zeolite-group minerals  
Zeolites (synthetic), uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(water softener; multiuse, solid cleaning device and composition)

IT 1310-73-2, Sodium hydroxide, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(alkalinity agent; multiuse, solid cleaning device and composition)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses 10332-33-9, Sodium perborate monohydrate 15630-89-4, Sodium percarbonate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(gas-releasing component; multiuse, solid cleaning device and composition)

IT 1312-76-1, Potassium silicate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(solubility control component; multiuse, solid cleaning device and composition)

L3 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:229323 CAPLUS

DN 139:317359

ED Entered STN: 25 Mar 2003

TI Alendronate affects long bone length and growth plate morphology in the oim mouse model for Osteogenesis Imperfecta

AU Evans, K. D.; Lau, S. T.; Oberbauer, A. M.; Martin, R. B.

CS Department of Animal Science, University of California, Davis, CA, 95616, USA

SO Bone (New York, NY, United States) (2003), 32(3), 268-274

CODEN: BONEDL; ISSN: 8756-3282

PB Elsevier Science Inc.

DT Journal

LA English

CC 1-12 (Pharmacology)

AB Alendronate, a bisphosphonate drug, has shown promise in reducing remodeling and bone loss in postmenopausal osteoporosis. Alendronate acts directly on the osteoclast, inhibiting its resorption capability. This inhibition of osteoclast activity has led to the use of bisphosphonates in the treatment of the osteogenesis imperfecta condition. Treatment of osteogenesis imperfecta with bisphosphonates enhances bone strength, but the consequences on linear bone growth are not well defined. Using the oim mouse model for type III osteogenesis imperfecta, two doses of alendronate, low (0.125 mg/kg/wk) and high (2.5 mg/kg/wk) were administered weekly via i.p. injection starting at 4 wk of age and ending at 12 wk of age to assess the effects of alendronate on humerus and ulna length. The higher dose of alendronate reduced humerus and ulna length in the oim/wt and wt/wt genotypes for both sexes. The oim/oim humerus and ulna were not significantly affected by the higher dose of alendronate in females, but reduced bone length in males. Proximal humerus growth plate area was affected by both genotype and alendronate dose and growth plate diameter was increased at the chondro-osseous junction by both alendronate doses. Genotype and alendronate dose affected growth plate height. The oim/oim genotype displayed taller growth plates. The high dosage of alendronate increased overall growth plate height, particularly within the

hypertrophic zone, which suggests a failure of vascular invasion-induced apoptosis in the hypertrophic cells. In conclusion, these results indicate that high doses of alendronate (>2.5 mg/kg/wk) inhibit long bone length in mice through alteration of the growth plate and possibly reduced resorption at the chondro-osseous junction.

ST alendronate bone length growth plate morphol osteogenesis imperfecta

IT Bone

Sex

(alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

IT Bone

(growth plate; alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

IT Bone, disease

(osteogenesis imperfecta; alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

IT 66376-36-1, Alendronate

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(alendronate affects long bone length and growth plate morphol. in male and female oim mouse model for osteogenesis imperfecta)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L3 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:689723 CAPLUS

DN 135:353030

ED Entered STN: 20 Sep 2001

TI Effects of pre and antenatal elevated and chronic oMtl-a-oGH transgene expression on adipose deposition and linear bone growth in mice

AU Oberbauer, A. M.; Cruickshank, J.; Thomas, A.; Stumbaugh, A.; Evans,

K. D.; Murray, J. D.; Egan, A. R.  
 CS Department of Animal Science, University of California, Davis, USA  
 SO Growth, Development and Aging (2001), 65(1), 3-13  
 CODEN: GDAGE9; ISSN: 1041-1232  
 PB Growth Publishing Co., Inc.  
 DT Journal  
 LA English  
 CC 2-5 (Mammalian Hormones)  
 AB Exposing growing oMtl-a-oGH transgenic mice with the regulatable  
 metallothionein promoter to elevated GH for 3 wk after weaning enhances  
 bone length and adipocyte differentiation. The objective of the present  
 study was to investigate the consequences of highly elevated GH exposure  
 during fetal and early postnatal growth periods on the mature phenotype.  
 Transgene expression, hence elevated GH, was achieved in fetuses and  
 neonates by providing 25 mM ZnSO<sub>4</sub> to the drinking water of the dams.  
 Wildtype and oMtl-a-oGH male and female mice were (a) never exposed to the  
 transgene stimulus, (b) exposed from birth to 21 d of age, (c) exposed  
 through gestation until 21 d of age, (d) exposed only through gestation,  
 or (e) exposed only during the first 7 d postpartum. At 84 d of age when  
 mature body size was reached, ulna and humerus lengths, and body, liver,  
 gonadal fat pad, mesenteric fat pad, and cleaned gastrointestinal (GI)  
 tract wts. were recorded. Bone lengths were also determined in a subset of  
 mice at 22 d of age. While early exposure to the elevated GH increased  
 ulna and humerus length at 22 d of age, the early GH levels failed to  
 produce significant changes in adipose content or bone lengths at  
 maturity. However, chronic exposure to slightly elevated GH, as seen in  
 the transgenics never induced to express the transgenic GH, depressed  
 liver and GI wts. and increased adipose depot wts. and humerus lengths  
 across both sexes. These results suggest that certain tissues in the  
 body, while capable of responding to GH during early developmental  
 periods, are not fully entrained to sustain that growth response once the  
 GH stimulus is withdrawn. Further, the preadipocyte pool appears unable  
 to respond to GH early in development. Finally, the tissues examined  
 exhibited a differential response to the GH, suggesting that different  
 tissues possess distinct response thresholds.  
 ST GH fetus neonate bone growth adipose deposition  
 IT Adipose tissue  
 Body weight  
 Bone  
 Digestive tract  
 Liver  
 Mesentery  
 Newborn  
 Reproductive organ  
 (GH levels in fetus and neonate effects on adipose deposition and  
 linear bone growth in mice)  
 IT Adipose tissue  
 (adipocyte, differentiation; GH levels in fetus and neonate effects on  
 adipose deposition and linear bone growth in mice)  
 IT Cell differentiation  
 (adipocyte; GH levels in fetus and neonate effects on adipose  
 deposition and linear bone growth in mice)  
 IT Embryo, animal  
 (fetus; GH levels in fetus and neonate effects on adipose deposition  
 and linear bone growth in mice)  
 IT 9002-72-6, Growth hormone  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
 study, unclassified); BIOL (Biological study)  
 (GH levels in fetus and neonate effects on adipose deposition and  
 linear bone growth in mice)  
 RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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- (21) Pomp, D; Biol Reprod 1995, V52, P170 CAPLUS
- (22) Pomp, D; Transgenic Res 1996, V5, P13 CAPLUS
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- (26) Vanderpooten, A; Domest Anim Endocrinol 1993, V10, P199 CAPLUS
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L3 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:287721 CAPLUS

DN 134:370880

ED Entered STN: 23 Apr 2001

TI Raman lidar: atmospheric applications

AU Demoz, B. B.; Starr, D. O'C.; Whiteman, D.; Evans, K. D.;  
Schwemmer, G.; Ferrare, R. A.; Turner, D. D.

CS NASA Goddard Space Flight Center, Greenbelt, MD, 20771, USA

SO Symposium on Lidar Atmospheric Monitoring, [Preprints], 1st, Long Beach,  
CA, United States, Jan. 9-14, 2000 (2000), 11-14 Publisher: American  
Meteorological Society, Boston, Mass.

CODEN: 69BEX9

DT Conference

LA English

CC 59-1 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 79

AB Data are shown which demonstrate the Raman lidar system's superb  
capability in visualizing and quantifying the detailed vertical and  
horizontal stratification of the atmospheric to more than 8 km altitude at  
night

and 3-4 km during daytime. Fine-scale structures in the boundary layer  
and/or between air mass boundaries were easily detected and the dynamic  
processes involved in generating these structures inferred.

ST atm study Raman lidar

IT Lidar

(Raman; atmospheric applications of Raman lidar)

IT Atmosphere (earth)

(atmospheric applications of Raman lidar)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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Science Team Meeting 1996, P31
- (2) Eberhard, W; J Atmos Oceanic Technol 1986, V3, P499
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- (5) Goldsmith, J; Applied Optics 1998, V37, P4979 CAPLUS
- (6) Marwitz, J; J Appl Meteor 1972, V11, P236
- (7) Melfi, S; Applied Optics 1997, V36, P3551 CAPLUS
- (8) Pal, S; Applied Optics 1992, V31, P1488
- (9) Turner, D; J Atmos and Oceanic Tech 1999, V16, P1062

L3 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:412834 CAPLUS

DN 129:248030

OREF 129:50463a,50466a

ED Entered STN: 08 Jul 1998

TI Comparison with lidar-derived water vapor with other moisture measurements during the CAMEX-2, LASE and WMO field campaigns

AU Evans, K. D.; Melfi, S. H.; Ferrare, R. A.; Whiteman, D. N.; Schwemmer, G.; Browell, E. V.; Schmidlin, F. J.; Harris, R.; Balsiger, F.; Philbrick, C. R.; Feltz, W.; Smith, W. L.

CS Hughes STX, Under Contract at NASA/Goddard Space Flight Center, Greenbelt, MD, USA

SO Advances in Atmospheric Remote Sensing with Lidar, Selected Papers of the International Laser Radar Conference, 18th, Berlin, July 22-26, 1996 (1997), Meeting Date 1996, 341-344. Editor(s): Ansmann, Albert. Publisher: Springer, Berlin, Germany.

CODEN: 66IJAF

DT Conference

LA English

CC 53-10 (Mineralogical and Geological Chemistry)

Section cross-reference(s): 73

AB Field missions were conducted at Wallops Island, VA in August and Sept. 1995. The NASA Goddard Space Flight Center Scanning Raman Lidar participated in all 3 campaigns by measuring water vapor for ground truth comparisons. Water vapor measurements were compared from 3 lidars, 2 in situ hygrometers, VIZ and Vaisala hygrometers, and an IR interferometer. The comparisons agree to within 5-10% from the ground up to 7 km.

ST atm water vapor measurement lidar comparison

IT Atmosphere (earth)

Humidity

Lidar

Water vapor

(comparison of lidar-derived water vapor with other moisture measurements during CAMEX-2, LASE and WMO field campaigns)

IT 7732-18-5, Water, occurrence

RL: ANT (Analyte); GOC (Geological or astronomical occurrence); ANST (Analytical study); OCCU (Occurrence)

(vapor; comparison of lidar-derived water vapor with other moisture measurements during CAMEX-2, LASE and WMO field campaigns)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(6) Starr, D; The role of water vapor in climate:A strategic research plan for the proposed GEWEX water vapor project (GVAP) 1991, P50

L3 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:412821 CAPLUS

DN 129:113219

OREF 129:23147a,23150a

ED Entered STN: 08 Jul 1998

TI Observation of anomalous Raman scattering associated with clouds

AU Melfi, S. H.; Li, J.; Evans, K. D.; Ferrare, R. A.; Whiteman, D. N.; Schwemmer, G.

CS Dept. of Physics, Univ. of Maryland-Balt. County, Baltimore, MD, 21228, USA

SO Advances in Atmospheric Remote Sensing with Lidar, Selected Papers of the International Laser Radar Conference, 18th, Berlin, July 22-26, 1996 (1997), Meeting Date 1996, 95-98. Editor(s): Ansmann, Albert. Publisher: Springer, Berlin, Germany.

CODEN: 66IJAF

DT Conference

LA English

CC 61-9 (Water)

Section cross-reference(s): 53, 79

AB During a field campaign in 1991, the NASA Goddard Space Flight Center Scanning Raman Lidar measured, in the water vapor channel, Raman scattering from a low-level cloud in excess of saturation. Excess scattering has been interpreted to be spontaneous Raman scattering by liquid water in the cloud droplets. A review of theor. and laboratory studies indicated the technique may provide a remote method to observe cloud liquid water.

ST cloud liq water Raman laser scattering

IT Lidar

(Raman; observation anomalous lidar Raman scattering associated with cloud liquid water content)

IT Water vapor

(atmospheric; observation anomalous lidar Raman scattering associated with cloud

liquid water content)

IT Atmospheric aerosols

Cloud waters

Raman spectra

(observation anomalous lidar Raman scattering associated with cloud liquid water content)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(3) Ferrare, R; GRL 1992, V19, P1599

(4) Ferrare, R; J Atmos And Oceanic Tech 1995, V12, P1177

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(6) Melfi, S; J Appl Meteor 1989, V28, P789

(7) Melfi, S; Submitted to Appl Opt 1996

(8) Scherer, J; J Phys Chem 1974, V78, P1304 CAPLUS

(9) Schweigar, G; J Opt Soc Am B 1991, V8, P1770

(10) Whiteman, D; Opts Lett 1993, V18, P247 CAPLUS

L3 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:412819 CAPLUS

DN 129:248020

OREF 129:50459a,50462a

ED Entered STN: 08 Jul 1998

TI Raman lidar and sun photometer measurements of aerosols and water vapor

AU Ferrare, R. A.; Melfi, S. H.; Whiteman, D.; Evans, K. D.; Schwemmer, G.; Kaufman, Y.; Ellingson, R.

CS Hughes STX, Code 912, NASA/GSFC, Greenbelt, MD, 20771, USA

SO Advances in Atmospheric Remote Sensing with Lidar, Selected Papers of the International Laser Radar Conference, 18th, Berlin, July 22-26, 1996 (1997), Meeting Date 1996, 23-26. Editor(s): Ansmann, Albert. Publisher: Springer, Berlin, Germany.

CODEN: 66IJAF

DT Conference  
 LA English  
 CC 53-10 (Mineralogical and Geological Chemistry)  
 Section cross-reference(s): 73  
 AB NASA/GSFC Scanning Raman Lidar (SRL) measurements of water vapor mixing ratio, relative humidity, aerosol backscattering and extinction are used to investigate relationships between aerosol optical properties and water vapor. The dependence of the normalized aerosol extinction with relative humidity measured by lidar, shows some indication of aerosol types. The aerosol extinction/backscattering ratio measured by SRL, and the aerosol size distributions derived from the sun photometer sky radiance data, were also used to identify changes in aerosol size and/or composition associated with hygroscopic aerosols.

ST atm aerosol water vapor Raman lidar  
 IT Absorptivity  
 Atmosphere (earth)  
 Atmospheric aerosols  
 Photometers  
 Water vapor  
 (Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)  
 IT Lidar  
 (Raman; Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)  
 IT Optical properties  
 Particle size distribution  
 (of aerosol; Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)  
 IT Humidity  
 (relative; Raman lidar and sun photometer measurements of aerosols and water vapor in atmospheric)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) d'Almeida, G; Atmospheric Aerosols, Global Climatology and Radiative Characteristics 1991, P561  
 (2) Ferrare, R; Geophys Res Letters 1992, V19(15), P1599  
 (3) Ferrare, R; Optical Remote Sensing of the Atmosphere Technical Digest 1993, V5, P11  
 (4) Holben, B; Accepted for publication Rem Sens Environ 1995  
 (5) Kaufman, Y; J Geophys Res 1994, V99(D5), P10341  
 (6) Pilinis, C; J Geophys Res 1995, V100(D9), P18739

L3 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1989:446512 CAPLUS  
 DN 111:46512  
 OREF 111:7769a,7772a  
 ED Entered STN: 05 Aug 1989  
 TI Theoretical electron density and temperature sensitive emission line ratios for helium-like silicon (Si XIII) compared to DITE tokamak observations  
 AU Keenan, F. P.; Barnsley, R.; Dunn, J.; Evans, K. D.; McCann, S. M.; Peacock, N. J.  
 CS Dep. Pure Appl. Phys., Queen's Univ., Belfast, BT7 1NN, UK  
 SO Journal de Physique, Colloque (1989), (C1, Int. Conf. Phys. Multiply Charged Ions Int. Workshop E.C.R. Ion Sources, 1988), C1-559/C1-564  
 CODEN: JPQCAK; ISSN: 0449-1947  
 DT Journal  
 LA English  
 CC 71-2 (Nuclear Technology)  
 Section cross-reference(s): 70, 73  
 AB New calcns. of the e d. sensitive emission line ratio  $R (= f/i)$  and temperature

sensitive ratio  $G = (f + i)/r$  in He-like Si XIII are presented, where  $f$ ,  $i$ , and  $r$  are the forbidden  $1s2\ 1S - 1s2s\ 3S$ , intercombination  $1s2\ 1S - 1s2p\ 3P_{1,2}$  and resonance  $1s2\ 1S - 1s2p\ 1P$  transitions, resp. A comparison of these with  $R$  and  $G$  ratios measured from x-ray spectra of the DITE tokamak, for which the  $e\ d.$  and temperature have been well determined, reveals excellent agreement between theory and observation, with discrepancies of typically  $<10\%$ . This provides exptl. support for the accuracy of the atomic data adopted in the line ratio calcns. The theor. results may therefore be applied with confidence to the anal. of remote sources for which no independent  $e\ d.$  and temperature ests. exist, such as solar flares.

ST tokamak plasma diagnostics DITE; fusion plasma diagnostics DITE

IT Nuclear fusion reactor fuels and plasmas

(diagnostics of DITE tokamak, theor. electron  $d.$  and temperature sensitive emission line ratios for helium-like silicon in relation to)

IT 16998-71-3, properties

RL: PRP (Properties)

(electron  $d.$  and temperature sensitive emission line ratios for, theor. calcn. of, DITE tokamak plasma diagnostics in relation to)

L3 ANSWER 11 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1989:430751 CAPLUS

DN 111:30751

OREF 111:5153a,5156a

ED Entered STN: 21 Jul 1989

TI Experimental measurement of dielectronic satellites to the helium-like aluminum  $1s2-1s2p\ 1P_1$  resonance line from laser produced plasmas

AU Dunn, J.; Barnsley, R.; Evans, K. D.; Peacock, N. J.; Tallents, G. J.; Norreys, P. A.; Key, M. H.

CS Dep. Phys., Leicester Univ., Leicester, LE1 7RH, UK

SO Journal de Physique, Colloque (1989), (C1, Int. Conf. Phys. Multiply Charged Ions Int. Workshop E.C.R. Ion Sources, 1988), C1-551/C1-557  
CODEN: JPQCAK; ISSN: 0449-1947

DT Journal

LA English

CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

AB Exptl. observations are given of satellite structure to the  $1s2-1s2p$  resonance lines of He-like  $Al^{11+}$  emitted from short pulse (20 ps), dense ( $n_e \approx 1.023 \times 10^{23}/cm^3$ ) laser produced plasmas. A Johann type PET (002) crystal spectrometer with high resolving power was used to make electron temperature and  $d.$  for these plasma conditions. The results were compared with theor. calcns.

ST aluminum cation x ray

IT Electron temperature

(in laser-produced aluminum plasma)

IT Plasma, chemical and physical effects

(x-ray emission from, helium-like aluminum resonance line in)

IT 16998-70-2, Aluminum(11+), properties

RL: PRP (Properties)

(x-ray spectral lines of, in laser-produced plasma)

L3 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1989:238474 CAPLUS

DN 110:238474

OREF 110:39411a,39414a

ED Entered STN: 25 Jun 1989

TI Electron density and temperature-sensitive x-ray-emission-line ratios for heliumlike silicon (Si XIII) in the DITE tokamak

AU Keenan, F. P.; McCann, S. M.; Barnsley, R.; Dunn, J.; Evans, K. D.; Peacock, N. J.

CS Dep. Pure Appl. Phys., Queen's Univ., Belfast, BT7 1NN, UK

SO Physical Review A: Atomic, Molecular, and Optical Physics (1989), 39(8),

4092-7  
CODEN: PLRAAN; ISSN: 0556-2791

DT Journal  
LA English

CC 71-2 (Nuclear Technology)  
Section cross-reference(s): 73

AB Recent calcns. of e impact excitation rates in He-like Si XIII are used to derive the e-d.-sensitive emission-line ratio  $R(f/i)$  and temperature-sensitive ratio  $G[(f+i)/r]$ , where  $f$ ,  $i$ , and  $r$  are the forbidden  $1s21S-1s2s3S$ , intercombination  $1s21S-1s2p\ P1,2$  and resonance  $1s21S-1s2p1P$  transitions, resp. A comparison of these with  $R$  and  $G$  ratios measured from x-ray spectra of the divertor injected tokamak exp (DITE) for which the e d. and temperature have been well determined, reveals good agreement between theory

and observation, with discrepancies of typically 8% in  $R$  and 5% in  $G$ . This provides exptl. support for the accuracy of the atomic data adopted in the line ratio calcns. The theor. results may be applied to the anal. of remote sources for which no independent e d. and temperature ests. exist (such as solar flares), in order to derive values of  $Ne$  and  $Te$  which, on the basis of the above comparison between theory and observation, should be accurate to  $\pm 0.3$  and  $\pm 0.1$  in the log, resp.

ST tokamak plasma electron density diagnostics; fusion plasma electron density diagnostics

IT Nuclear fusion reactor fuels and plasmas  
(electron d. and temperature-sensitive x-ray-emission-line ratios for DITE tokamak)

IT 16998-71-3, properties

RL: PRP (Properties)  
(electron d. and temperature-sensitive x-ray-emission line ratios for, in DITE tokamak)

L3 ANSWER 13 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1988:463643 CAPLUS

DN 109:63643

OREF 109:10531a,10534a

ED Entered STN: 19 Aug 1988

TI High-resolution spectroscopy of DITE tokamak in the  $10\text{-}\text{\AA}$  region

AU Dunn, J.; Barnsley, R.; Evans, K. D.; Peacock, N. J.

CS Dep. Phys., Leicester Univ., Leicester, LE1 7RH, UK

SO Journal de Physique, Colloque (1988), C1(IAU Colloq. No. 102 UV X-ray Spectrosc. Astrophys. Lab. Plasmas, 1988), C1-91/C1-94

CODEN: JPQCAK; ISSN: 0449-1947

DT Journal

LA English

CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 71

AB An account is given of the x-ray emission from the DITE tokamak at  $4\text{-}10\text{ \AA}$  measured by a Johann curved crystal photog. spectrometer. This high resolution instrument was used for detailed line identifications, eg. of L-shell transitions in the Fe spectrum at  $\text{.apprx.}8\text{ \AA}$  and of the He-like ion spectra of  $Al^{11+}$ ,  $Si^{12+}$ , and  $Ar^{16+}$ . The fine structure was resolved for H-like  $Mg^{11+}$ ,  $Al^{12+}$ , and  $Si^{13+}$ . Departures from the statistical value of 0.5 for  $\beta$ , the intensity ratio of the Lyman- $\alpha$  doublet, were observed Exptl. values for the fine structure separation are presented for these medium Z metals.

ST x ray DITE tokamak plasma

IT Isoelectronic series

(helium and hydrogen, x-ray spectra of, in plasma)

IT X-ray spectrometry

(of DITE tokamak, high-resolution)

IT Nuclear fusion reactors, tokamak

(x-ray spectroscopy of DITE, high-resolution)

IT 7440-59-7, Helium, properties  
 RL: PRP (Properties)

(x-ray spectra of DITE tokamak plasma of)

IT 7440-59-7D, Helium, isoelectronic series, properties 11130-84-0,  
 Argon(16+), properties 12385-13-6D, Hydrogen atom, isoelectronic series,  
 properties 12596-02-0, Iron(22+), properties 12596-03-1, Iron(23+),  
 properties 16941-71-2, Silicon(11+), properties 16998-70-2,  
 Aluminum(11+), properties 16998-71-3, Silicon(12+), properties  
 16998-99-5, Magnesium(10+), properties 18399-48-9, Aluminum(12+),  
 properties 18639-35-5, Magnesium(11+), properties 23778-10-1,  
 Silicon(13+), properties  
 RL: PRP (Properties)

(x-ray spectra of, in DITE tokamak)

L3 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1988:445552 CAPLUS  
 DN 109:45552  
 OREF 109:7539a,7542a  
 ED Entered STN: 05 Aug 1988  
 TI Axial observation of x-ray spectra from a beam-foil source  
 AU Laming, J. M.; Silver, J. D.; Barnsley, R.; Dunn, J.; Evans, K. D.  
 ; Peacock, N. J.  
 CS Clarendon Lab., Univ. Oxford, Oxford, OX1 3PU, UK  
 SO Journal de Physique, Colloque (1988), C1(IAU Colloq. No. 102 UV X-ray  
 Spectrosc. Astrophys. Lab. Plasmas, 1988), C1-339/C1-342  
 CODEN: JPQCAK; ISSN: 0449-1947  
 DT Journal  
 LA English  
 CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)

AB New observations of x-ray spectra from foil-excited heavy ion beams are  
 reported. By observing the target in a direction along the beam axis, an  
 improvement in spectral resolution,  $\delta\lambda/\lambda$ , by a factor of  
 .apprx.2 was achieved, due to the reduced Doppler broadening in this  
 geometry.

ST x ray heavy ion foil interaction

IT Ion beams

(x-ray emission from foil interactions with)

IT 14041-57-7, Neon(6+), properties  
 RL: PRP (Properties)

(interaction of, with carbon foil, x-ray emission from neon(9+) in)

IT 14700-85-7, Silicon(8+), properties  
 RL: PRP (Properties)

(interaction of, with carbon foil, x-ray emission from silicon(12+) in)

IT 7440-44-0, properties  
 RL: PRP (Properties)

(x-ray emission by ion beam interactions with foil of)

IT 15721-59-2, Neon(9+), properties 16998-71-3, Silicon(12+), properties  
 RL: RCT (Reactant); RACT (Reactant or reagent)

(x-ray emission by, in beam-foil interactions)

L3 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1988:444758 CAPLUS  
 DN 109:44758  
 OREF 109:7423a,7426a  
 ED Entered STN: 05 Aug 1988  
 TI Broadband (1-25 Å) x-ray crystal spectroscopy of impurity ions in the  
 dite tokamak  
 AU Barnsley, R.; Evans, K. D.; Hawkes, N. C.; Peacock, N. J.  
 CS Dep. Phys., Univ. Leicester, Leicester, LE1 7RH, UK  
 SO Journal de Physique, Colloque (1988), C1(IAU Colloq. No. 102 UV X-ray

Spectrosc. Astrophys. Lab. Plasmas, 1988), C1-207/C1-210  
CODEN: JPQCAK; ISSN: 0449-1947

DT Journal  
LA English  
CC 71-2 (Nuclear Technology)  
AB Results are presented from a Bragg rotor spectrometer for wide-ranging studies of intrinsic and injected impurity ions in the DITE Tokamak. The instrument has absolute calibration for flux and wavelength and can detect impurities at the part per million level in the band from 1 to 24 Å. Monochromator and fast spectral survey modes, combined with a spatial scan facility, result in a versatile and powerful diagnostic tool.  
ST x ray impurity tokamak plasma; fusion reactor impurity x ray  
IT Nuclear fusion reactor fuels and plasmas  
(x-ray spectroscopy of impurity ions in)  
IT Spectrometers  
(x-ray, for impurity ion diagnostics in tokamak plasma)  
IT 7440-37-1D, Argon, ions, properties 12663-84-2, Iron(18+), properties 12663-85-3, Iron(19+), properties 12663-86-4, Iron(20+), properties 12663-87-5, Iron(21+), properties 14158-22-6, Oxygen(6+), properties 14274-89-6, Oxygen(7+), properties 16998-71-3, Silicon(12+), properties 16998-99-5, Magnesium(10+), properties 16999-02-3, Chlorine(15+), properties 18639-35-5, Magnesium(11+), properties 20522-79-6, Chromium(14+), properties 23739-08-4, Silicon(14+), properties 23778-10-1, Silicon(13+), properties 37366-92-0, Iron(16+), properties  
RL: PRP (Properties)  
(spectral lines of impurity of, in x-ray spectra of tokamak)  
  
L3 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1988:121439 CAPLUS  
DN 108:121439  
OREF 108:19751a,19754a  
ED Entered STN: 01 Apr 1988  
TI Axial observation of a beam-foil source  
AU Laming, J. M.; Silver, J. D.; Barnsley, R.; Dunn, J.; Evans, K. D.  
; Peacock, N. J.  
CS Clarendon Lab., Univ. Oxford, Oxford, OX1 3PU, UK  
SO Physics Letters A (1988), 126(4), 253-7  
CODEN: PYLAAG; ISSN: 0375-9601  
DT Journal  
LA English  
CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
AB New observations of x-ray spectra from foil-excited heavy ion beams are reported. By observing the target in a direction along the beam axis, an improvement in spectral resolution,  $\delta\lambda/\lambda$ , by a factor of .apprx.2 was achieved, due to the reduced Doppler broadening in this geometry.  
ST x ray foil excited ion beam  
IT X-ray spectrometry  
(of foil-excited heavy ion beams)  
IT Ion beams  
(x-ray spectra from foil-excited)  
IT 14700-85-7, properties  
RL: PRP (Properties)  
(x-ray spectra from carbon foil-excited beams of)  
IT 14041-57-7, properties  
RL: PRP (Properties)  
(x-ray spectra from foil-excited beams of)  
IT 14762-75-5, properties  
RL: PRP (Properties)  
(x-ray spectra from silicon octacation beams excited by foil of)  
IT 14280-14-9, Silicon(9+), properties 16941-71-2, Silicon(11+), properties

16998-71-3, Silicon(12+), properties 26603-58-7, Silicon(10+),  
properties  
RL: PRP (Properties)  
(x-ray spectra of, from carbon foil-excited silicon octacation beams)

IT 15721-59-2, Neon(9+), properties  
RL: PRP (Properties)  
(x-ray spectra of, from foil-excited neon hexacation beams)

L3 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1988:45382 CAPLUS  
DN 108:45382  
OREF 108:7449a,7452a  
ED Entered STN: 06 Feb 1988  
TI Density limit and impurity transport investigations in DITE tokamak  
AU Allen, J.; Austin, G. E.; Axon, K. B.; Barnsley, R.; Dunstan, M.; Edwards,  
D. N.; Evans, K. D.; Fielding, S. J.; Goodall, D. H. J.; et al.  
CS Culham Lab., Euratom-EKAEA Fusion Assoc., Abingdon/Oxfordshire, UK  
SO Plasma Physics and Controlled Nuclear Fusion Research (1987), Volume Date  
1986, 11th(1), 227-35  
CODEN: PPCRDU; ISSN: 0589-1469

DT Journal  
LA English  
CC 71-2 (Nuclear Technology)

AB The processes leading to disruption with increasing d. were studied. The  
discharge remains in thermal equilibrium but there is a slow profile  
contraction as the d. is raised because of a deterioration in edge  
confinement relative to the center. This is only partly explained by  
radiation losses. The central confinement time of impurities injected by  
laser ablation was measured. At high d. in ohmically heated discharges,  
it can be varied by more than a factor of 5 by changing the gas feed rate.  
The largest values occur for refuelling by recycling only. Substantial  
differences also occur with co- and counter-neutral beam injection, which  
are not sensitive to the gas feed rate in this case. These differences  
cannot be mainly ascribed to plasma rotation because they are not removed  
by switching on the bundle divertor, which reduces the rotation speed by  
an order of magnitude. An accumulation of intrinsic impurities is observed  
in discharges with long impurity confinement times. The effects described  
are much reduced or absent at low d.

ST tokamak plasma density impurity transport

IT Nuclear fusion reactor fuels and plasmas  
(d. limit and impurity transport in tokamak)

L3 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 1986:522458 CAPLUS  
DN 105:122458  
OREF 105:19679a,19682a  
ED Entered STN: 03 Oct 1986  
TI Bragg rotor spectrometer for tokamak diagnostics  
AU Barnsley, R.; Evans, K. D.; Peacock, N. J.; Hawkes, N. C.  
CS Euratom Fusion Assoc., UKAEA, Abingdon/Oxon., OX14 3DB, UK  
SO Review of Scientific Instruments (1986), 57(8, Pt. 2), 2159-61  
CODEN: RSINAK; ISSN: 0034-6748

DT Journal  
LA English  
CC 71-2 (Nuclear Technology)

Section cross-reference(s): 73

AB A high-throughput broadband (1-24-Å) x-ray spectrometer was  
demonstrated on the divertor injection tokamak experiment (DITE) tokamak. A  
hexagonal rotor supporting 6 diffractors may be driven in several modes,  
ranging from a full spectral survey at .apprx.10 Hz to a stationary,  
monochromator mode. Wavelength resolution, 500 .ltorsim.  
 $\lambda/\Delta\lambda$  .ltorsim. 1000, is governed by gridded or slotted

collimators. A multiwire gas proportional counter provides a measure of energy discrimination, which together with the large instrument aperture, gives sufficient sensitivity and signal/noise ratio to allow measurement of the continuum radiation from the tokamak. The instrument has a self-contained vacuum system which allows full spatial scans of the DITE plasma. Data acquisition and drive mechanisms for the rotor and filter selection, are controlled remotely from a computer. Results are presented of fast spectral surveys and time evolution of impurity emission during impurity injection.

ST x ray spectrometer tokamak plasma; fusion plasma spectrometer

IT X-ray spectra

(of tokamak plasma)

IT Nuclear fusion reactors

(tokamak, fuels and plasmas, x-ray spectrometer for diagnostics of DITE, Bragg rotor)

IT Spectrometers

(x-ray, for tokamak plasma diagnostics)

IT 14158-22-6, properties 14274-89-6, properties 16998-70-2, properties

16998-99-5, properties 18639-35-5, properties

RL: PRP (Properties)

(x-ray line of, in spectra of tokamak plasma)

L3 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1980:540716 CAPLUS

DN 93:140716

OREF 93:22259a,22262a

ED Entered STN: 12 May 1984

TI The Bragg reflection integral for potassium acid phthalate

AU Lewis, M.; Maksym, P. A.; Evans, K. D.

CS Phys. Dep., Univ. Leicester, Leicester, LE1 7RH, UK

SO Astronomy and Astrophysics (1980), 87(1-2), 213-23

CODEN: AAEJAF; ISSN: 0004-6361

DT Journal

LA English

CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)

AB X-ray spectrometry at wavelengths longer than about  $\lambda$  10 has long since depended on the use of K acid phthalate (KAP)(001) as a Bragg-mode analyzer. For the case of the solar atmospheric, rather good quality spectra have been recorded for several years by this method. Their quant. calibration has, however, been somewhat troublesome because of difficulties in determining the (wavelength) efficiency function of the analyzers. Reliable methods for both measurement and calcn. of this function have recently been developed. The results are presented of an extensive study of KAP by these methods and comments upon the use of these determined characteristics for the interpretation of spectra.

ST Bragg reflection integral potassium phthalate; x ray spectrometry Bragg analyzer; sun x ray Bragg analyzer

IT X-ray spectrometry

(Bragg reflection integral for potassium acid phthalate mode analyzer in)

IT Sun

(x-ray spectrometry of, Bragg reflection integral for potassium acid phthalate mode analyzer in)

IT 877-24-7

RL: PRP (Properties)

(Bragg reflection integral for)

L3 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1979:79023 CAPLUS

DN 90:79023

OREF 90:12393a,12396a

ED Entered STN: 12 May 1984  
 TI X-ray image of the Cygnus Loop  
 AU Rappaport, S.; Petre, R.; Kayat, M. A.; Evans, K. D.; Smith, G. C.; Levine, A.  
 CS Phys. Dep., Massachusetts Inst. Technol., Cambridge, MA, USA  
 SO Astrophysical Journal (1979), 227(1, Pt. 1), 285-90  
 CODEN: ASJOAB; ISSN: 0004-637X  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB An x-ray picture of the Cygnus Loop, recorded with an imaging x-ray telescope, is presented. The results are highly suggestive of a limb-brightened shell of hot gas which results from the expansion of a blast wave into the interstellar medium. Spatial structure is clearly evident on scale sizes down to .apprx.1/4°, a likely indication of the inhomogeneities in the interstellar medium. No evidence is found for any discrete x-ray-emitting remnant of the original supernova explosion.  
 ST x ray image Cygnus Loop  
 IT X-ray  
 (imaging, of Cygnus Loop supernova)  
 IT Stars  
 (supernova, as x-ray source)  
  
 L3 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1977:509213 CAPLUS  
 DN 87:109213  
 OREF 87:17247a,17250a  
 ED Entered STN: 12 May 1984  
 TI The calibration of Bragg x-ray analyzer crystals for use as polarimeters in x-ray astronomy  
 AU Evans, K. D.; Hall, R.; Lewis, M.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Space Science Instrumentation (1977), 3(2), 163-9  
 CODEN: SSINDY; ISSN: 0377-7936  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB The characteristics are discussed of x-ray analyzer crystals used in the Bragg mode as polarimeters. A calibration technique is described and typical results are presented for the case of pentaerythritol.  
 ST polarimeter x ray astronomy; Bragg x ray analyzer; pentaerythritol x ray astronomy  
 IT X-ray  
 (astronomy of, polarimeters in, calibration of Bragg x-ray analyzer crystals for)  
 IT Polarimeters  
 (in x-ray astronomy, calibration of Bragg x-ray analyzer crystals for)  
 IT Astrophysics  
 (x-ray astronomy, polarimeters in, calibration of Bragg x-ray analyzer crystals for)  
 IT 115-77-5, uses and miscellaneous  
 RL: USES (Uses)  
 (in x-ray astronomy)  
  
 L3 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1977:197674 CAPLUS  
 DN 86:197674  
 OREF 86:30921a,30924a  
 ED Entered STN: 12 May 1984  
 TI The spectrum of nickel(Ni XIX) in the solar corona

AU Hutcheon, R. J.; Pye, J. P.; Evans, K. D.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Solar Physics (1976), 46(1), 171-7  
 CODEN: SLPHAX; ISSN: 0038-0938  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB The wavelengths and intensities of the stronger transitions in the spectrum of Ni XIX are reduced from measurements of the x-ray spectra of 3 coronal active regions. The new measured wavelengths are consistent with prediction by isoelectronic extrapolation from the wavelengths of well established transitions but are .apprx.0.01 Å longer than previously accepted laboratory measurements. This difference appears to be crucial to the correct assignment of features in the coronal spectrum to Ni XIX. The relative intensities of the new assignments to Ni XIX are in broad agreement with the M. Loulergue-H. Nussbaumer (1975) calcns.  
 ST nickel 18 sun spectra  
 IT Sun  
 (corona, x-ray spectrum of nickel ion in)  
 IT 15721-59-2, properties 37366-92-0, properties 37367-12-7, properties  
 RL: PRP (Properties)  
 (spectral lines of, in x-ray spectrum of solar corona)  
  
 L3 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1977:24326 CAPLUS  
 DN 86:24326  
 OREF 86:3817a,3820a  
 ED Entered STN: 12 May 1984  
 TI The wavelength calibration and resolution of the Leicester solar coronal Bragg spectrometer  
 AU Evans, K. D.; Hutcheon, R. J.; Pye, J. P.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Space Science Instrumentation (1976), 2(1-2-3), 339-48  
 CODEN: SSINDY; ISSN: 0377-7936  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB X-ray emission spectra of coronal active regions were studied for several years by use of Skylark rocket vehicles equipped with the Leicester Bragg spectrometer. Many new emission lines were used for diagnosis of the condition of the coronal plasma and for determination of ionic term diagrams.  
 The behavior, during operation in space, of the wavelength calibrations and resolution of the instrument are discussed. The wavelength scale is estimated to a precision of 1 part in 10<sup>4</sup>.  
 ST solar coronal Bragg spectrometer; x ray solar corona  
 IT Sun  
 (corona, x-ray emission spectrum of)  
 IT Spectrometers  
 (x-ray, wavelength calibration and resolution of, for solar coronal use)  
 IT 14158-22-6, properties 14274-89-6, properties 14782-26-4, properties 16998-99-5, properties  
 RL: PRP (Properties)  
 (spectral lines of, in x-ray emission spectrum of solar corona)  
  
 L3 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1977:24325 CAPLUS  
 DN 86:24325  
 OREF 86:3817a,3820a

ED Entered STN: 12 May 1984  
 TI Calibration data for the Ariel 5 Bragg spectrometer  
 AU Evans, K. D.; Hall, R.; Lewis, M.; Underwood, D.; Cooke, B. A.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Space Science Instrumentation (1976), 2(1-2-3), 313-23  
 CODEN: SSINDY; ISSN: 0377-7936  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance,  
 and Other Optical Properties)  
 Section cross-reference(s): 71  
 AB Instrument calibrations were established for the Ariel 5 Bragg  
 spectrometers used for astronomical studies. Salient features of the  
 instrument design are given. The wavelength-dependent detector quantum  
 efficiencies may trivially be calculated from these features by using  
 well-established mass absorption coeffs. The efficiency was calculated of the  
 graphite and LiF Bragg analyzer crystals.  
 ST Bragg spectrometer calibration data; x ray astronomy Bragg spectrometer;  
 graphite Bragg analyzer crystal; lithium fluoride Bragg analyzer crystal  
 IT Space, interstellar  
 (Bragg spectrometer for x-ray studies of)  
 IT Spectrometers  
 (x-ray, for ariel 5 x-ray astronomy spacecraft, calibration data for)  
 IT 7782-42-5, uses and miscellaneous 7789-24-4, uses and miscellaneous  
 RL: USES (Uses)  
 (Bragg analyzer crystals, for ariel 5 x-ray astronomy spacecraft)

L3 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1977:24324 CAPLUS  
 DN 86:24324  
 OREF 86:3817a,3820a  
 ED Entered STN: 12 May 1984  
 TI The absolute calibration of the reflection integral of Bragg x-ray  
 analyzer crystals-single reflection methods  
 AU Evans, K. D.; Leigh, B.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Space Science Instrumentation (1976), 2(1-2-3), 105-23  
 CODEN: SSINDY; ISSN: 0377-7936  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance,  
 and Other Optical Properties)  
 AB Conditions relevant to the astronomical use of Bragg spectrometers for  
 absolute flux measurements are examined. The universal application, for  
 unpolarized radiation, of the reflection integral as the prime calibration  
 of the crystal efficiency is established irrespectively of beam spread or, within  
 certain limits, bandwidth. Several methods of calibration of the  
 reflection integral are given, and typical results are discussed. Comment  
 is made on the practical difficulty incurred in operation of each method  
 and upon the estimated uncertainty in the results.  
 ST reflection integral Bragg spectrometer; x ray Bragg analyzer  
 IT Astrophysics  
 (Bragg spectrometers for absolute flux measurements in)  
 IT Spectrometers  
 (x-ray, astronomical use and calibration of)

L3 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1976:551634 CAPLUS  
 DN 85:151634  
 OREF 85:24215a,24218a  
 ED Entered STN: 12 May 1984  
 TI Weak iron(Fe XVII) transitions in the coronal x-ray spectrum

AU Hutcheon, R. J.; Pye, J. P.; Evans, K. D.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Astronomy and Astrophysics (1976), 51(3), 451-60  
 CODEN: AAEJAF; ISSN: 0004-6361  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB Wavelengths and relative intensities are calculated for previously unknown higher members of all Rydberg series of Fe XVII known to be significantly radiated by coronal active regions. High resolution coronal active region x-ray spectrum measurements are anal. to find these transitions. New measured wavelengths and intensities are given. A new value of the Fe XVII ionization potential is given. The work is compared with that of others and a critical examination of the risk of erroneous identification in the work is included.  
 ST corona iron transition x ray  
 IT Sun  
     (corona, iron transitions in x-ray spectrum of)  
 IT Ionization potential and energy  
     (of iron XVII)  
 IT 37366-92-0, properties  
 RL: PRP (Properties)  
     (spectral lines of, in x-ray spectrum of solar corona)

L3 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1976:470561 CAPLUS  
 DN 85:70561  
 OREF 85:11267a,11270a  
 ED Entered STN: 12 May 1984  
 TI The spectrum of iron(Fe XVII) in the solar corona  
 AU Hutcheon, R. J.; Pye, J. P.; Evans, K. D.  
 CS Phys. Dep., Univ. Leicester, Leicester, UK  
 SO Monthly Notices of the Royal Astronomical Society (1976), 175(3), 489-99  
 CODEN: MNRAA4; ISSN: 0035-8711  
 DT Journal  
 LA English  
 CC 73-7 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB The wavelengths and intensities of  $n = 3 \rightarrow 2$  and  $n = 4 \rightarrow 2$  transitions in Fe XVII were obtained from measurements of the x-ray spectra of 3 coronal active regions. The observations were made using Bragg x-ray spectrometers operated on 2 on 2 Skylark rocket vehicles. New wavelength measurements are given with an uncertainty of  $\pm 0.003$  Å. Relative intensities were compared with the calculated values of M. Loulergue and H. Nussbaumer (1973, 1975). Agreement is generally good except for some of the 2p6-2p53s lines. A feature near 11.0 Å in the measured spectra is tentatively identified with a blend of 2 previously unknown inner shell transitions.  
 ST iron x ray sun corona  
 IT Sun  
     (corona, x-ray wavelengths and intensities of iron ion lines from)  
 IT 37366-92-0, properties  
 RL: PRP (Properties)  
     (spectral lines of, in x-ray spectra of solar corona)

=> d 13 1 all

L3 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2008:418572 CAPLUS

ED Entered STN: 03 Apr 2008  
 TI Underground trampoline ring design  
 IN Burnham, Tracy; Evans, K. Donald; Muller, Mark; Leopold, Jerry;  
 Cook, Cory E.  
 PA USA  
 SO U.S. Pat. Appl. Publ.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 INCL 482029000; 052741130  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20080081739	A1	20080403	US 2007-857595	20070919
PRAI	US 2007-857595		20070919		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20080081739	INCL	482029000; 052741130
	IPCI	A63B0005-11 [I,A]; A63B0005-00 [I,C*]; E04B0001-28 [I,A]
	NCL	482/029.000; 052/741.130
AB		An in-ground trampoline system configured to provide a ground level jumping surface which consists of a trampoline, a pit, and a segmented retaining wall configured to support the walls of the pit.

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	219.21	219.42
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-47.20	-47.20

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=> e potassium silicate/cn

E1	1	POTASSIUM SESQUICARBONATE/CN
E2	1	POTASSIUM SILANIDE (KSIH3)/CN
E3	1	--> POTASSIUM SILICATE/CN
E4	1	POTASSIUM SILICATE (K10SI6O17))/CN
E5	1	POTASSIUM SILICATE (K18SI16O41)/CN
E6	1	POTASSIUM SILICATE (K2SI2O5)/CN
E7	1	POTASSIUM SILICATE (K2SI3O7)/CN
E8	1	POTASSIUM SILICATE (K2SI4O9)/CN
E9	1	POTASSIUM SILICATE (K2SI4O9), MONOHYDRATE/CN
E10	1	POTASSIUM SILICATE (K2SI9O19)/CN
E11	1	POTASSIUM SILICATE (K2SIO3)/CN
E12	1	POTASSIUM SILICATE (K4SI5O12)/CN

=> s e3;d

L4 1 "POTASSIUM SILICATE"/CN

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2008 ACS on STN

RN 1312-76-1 REGISTRY

ED Entered STN: 16 Nov 1984

CN Silicic acid, potassium salt (CA INDEX NAME)

OTHER NAMES:

CN	1K
CN	1K (salt)
CN	2K
CN	2K (salt)
CN	Betolin EP 219
CN	Betolin K 28
CN	Betolin P 35
CN	Crystal K 120
CN	Crystal K 78
CN	Inobond K 4009
CN	K 120
CN	K 4/2
CN	K 4009
CN	K 53
CN	K 53 (silicate)
CN	K 78
CN	Kasil
CN	Kasil 1
CN	Kasil 1552
CN	Kasil 2130
CN	Kasil 2135
CN	Kasil 2236
CN	Kasil 2529
CN	Kasil 33
CN	Kasil 6
CN	Kasil 88
CN	Kasil SS
CN	Kasolv 16
CN	Kasolv SS
CN	MAX 3
CN	Ohkaseal A
CN	OK 55
CN	Potassium polysilicate
CN	Potassium silicate
CN	Potassium Silicate 1K
CN	Potassium Silicate 2K
CN	Potassium Silicate A
CN	Potassium Silicate OK 55
CN	Potassium water glass

CN PS 7  
 CN PS 7 (silicate)  
 CN Pyramid 120  
 CN Pyramid K 66  
 CN SEK  
 CN Silchem K 1420  
 CN Soluble potash glass  
 CN Soluble potash water glass  
 CN Trolit AOS  
 DR 12698-85-0, 11116-04-4  
 MF Unspecified  
 CI COM, MAN  
 LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, CASREACT, CBNB, CHEMCATS,  
 CHEMLIST, CIN, CSCHEM, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
 ENCOMPPAT2, HSDB\*, IFICDB, IFIPAT, IFIUDB, MRCK\*, MSDS-OHS, PIRA, PROMT,  
 TOXCENTER, TULSA, USPAT2, USPATFULL, USPATOLD  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4329 REFERENCES IN FILE CA (1907 TO DATE)  
 45 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 4336 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> e sodium perborate monohydrate/cn

E1 1 SODIUM PERBORATE (NAH2BO4)/CN  
 E2 1 SODIUM PERBORATE DECAHYDRATE/CN  
 E3 1 --> SODIUM PERBORATE MONOHYDRATE/CN  
 E4 1 SODIUM PERBORATE TETRAHYDRATE/CN  
 E5 1 SODIUM PERBORATE TRIHYDRATE/CN  
 E6 1 SODIUM PERBORATE, NABO4/CN  
 E7 1 SODIUM PERBROMATE/CN  
 E8 1 SODIUM PERBROMATE (BRNAO4)/CN  
 E9 1 SODIUM PERBROMATE MONOHYDRATE/CN  
 E10 3 SODIUM PERCARBONATE/CN  
 E11 1 SODIUM PERCARBONATE (NA2C2O6)/CN  
 E12 1 SODIUM PERCARBONATE (NA2CO3.1.5H2O2)/CN

=> s e3;d

L5 1 "SODIUM PERBORATE MONOHYDRATE"/CN

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2008 ACS on STN  
 RN 10332-33-9 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Perboric acid (HBO(O2)), sodium salt, monohydrate (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Perboric acid (HBO3), sodium salt, monohydrate (8CI)  
 OTHER NAMES:  
 CN Interox A  
 CN Perasafe  
 CN Sodium borate (NaBO3), monohydrate  
 CN Sodium perborate monohydrate  
 DR 17035-66-4  
 MF B H O3 . H2 O . Na  
 CI COM

LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN,  
CSCHEM, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS, PROMT, RTECS\*,  
TOXCENTER, ULIDAT, USPAT2, USPATFULL, USPATOLD  
(\*File contains numerically searchable property data)  
CRN (14034-78-7)

O=B-O-OH

● Na

● H<sub>2</sub>O

464 REFERENCES IN FILE CA (1907 TO DATE)  
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
464 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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=> s (1312-76-1 or potassium silicate#) and (10332-33-9 or sodium perborate monohydrate)

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L7 464 L6

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

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L9 4336 L8

698593 POTASSIUM

242472 SILICATE#

5291 POTASSIUM SILICATE#

(POTASSIUM(W)SILICATE#)

1233025 SODIUM

5785 PERBORATE

30149 MONOHYDRATE

438 SODIUM PERBORATE MONOHYDRATE

(SODIUM(W)PERBORATE(W)MONOHYDRATE)

L10 3 ( L9 OR POTASSIUM SILICATE#) AND ( L7 OR SODIUM PERBORATE MONOHYDRATE)

=> d 1-3 all

L10 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:1120593 CAPLUS

DN 147:429231

ED Entered STN: 05 Oct 2007

TI Multiuse, solid cleaning device and composition

IN Evans, K. Donald; Cook, Cory E.

PA Eco-Safe Technologies, L.L.C., USA

SO U.S. Pat. Appl. Publ., 38pp., Cont.-in-part of U.S. Ser. No. 597,837/

CODEN: USXXCO

DT Patent

LA English

INCL 510445000

CC 46-5 (Surface Active Agents and Detergents)

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 20070232517	A1	20071004	US 2006-535896	20060927
	US 20040162227	A1	20040819	US 2004-775264	20040210

US 7053040	B2	20060530		
US 20050130868	A1	20050616	US 2004-925331	20040824
WO 2005077064	A2	20050825	WO 2005-US4133	20050210
WO 2005077064	A3	20061005		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 20070184998	A1	20070809	US 2006-597837	20060809
PRAI US 2004-775264	A2	20040210		
US 2004-925331	A2	20040824		
WO 2005-US4133	W	20050210		
US 2006-597837	A2	20060809		
US 1999-437532	A3	19991110		
US 2002-144331	A2	20020513		
US 2003-448239P	P	20030218		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20070232517	INCL	510445000
	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20050130868	IPCI	C11D0001-00 [ICM,7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C];

C11D0017-06 [I,A]  
 ECLA C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;  
 C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H  
 US 20070184998 IPCI C11D0003-395 [I,A]  
 NCL 510/302.000

AB A multiuse cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of wash and rinse cycles. The cleaning agent includes a gas-releasing component and potassium silicate as a solubility control component to limit the solubility of the cleaning agent. The cleaning agent may include other ingredients such as an alkalinity agent as a pH regulator, a water softener to solvate metal ions in a solution of water, an optical brightener, an anti-redeposition agent, fragrances, surfactants, and other ingredients. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous enclosure may be disposed around the solid cleaning agent.

ST solid cleaning device compn; potassium silicate  
 zeolite cleaning device

IT Carbonates, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (alkali metal; multiuse, solid laundry cleaning device and composition)

IT Alkali metal compounds  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (carbonates; multiuse, solid laundry cleaning device and composition)

IT Detergents  
 (cleaning compns.; multiuse, solid laundry cleaning device and composition)

IT Detergents  
 (laundry, solid device, multiuse; multiuse, solid laundry cleaning device and composition)

IT Fluorescent brighteners  
 Perfumes  
 Surfactants  
 (multiuse, solid laundry cleaning device and composition)

IT Alkali metal hydrides  
 Alkali metal hydroxides  
 Alkali metal oxides  
 Synthetic rubber, uses  
 Zeolites (synthetic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (multiuse, solid laundry cleaning device and composition)

IT 497-19-8, Sodium carbonate, uses 994-36-5, Sodium citrate 1303-96-4,  
 Borax 1310-73-2, Sodium hydroxide, uses 1312-76-1,  
 Potassium silicate 3313-92-6, Sodium percarbonate  
 9000-11-7, Carboxymethyl cellulose 10332-33-9, Sodium  
 perborate monohydrate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (multiuse, solid laundry cleaning device and composition)

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2005:527371 CAPLUS  
 DN 143:45326  
 ED Entered STN: 19 Jun 2005  
 TI Multiuse, solid cleaning device and composition  
 IN Evans, K. Donald; Cook, Cory E.; Caruthers, Eddie  
 PA USA  
 SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 775,264.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C11D001-00

INCL 510459000

CC 46-5 (Surface Active Agents and Detergents)

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050130868	A1	20050616	US 2004-925331	20040824
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP	1725648	A2	20061129	EP 2005-713227	20050210
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				
	CN 1918276	A	20070221	CN 2005-80004598	20050210
	BR 2005007493	A	20070710	BR 2005-7493	20050210
	JP 2007522326	T	20070809	JP 2006-553208	20050210
	KR 2007009560	A	20070118	KR 2006-715949	20060807
	MX 2006PA08945	A	20070126	MX 2006-PA8945	20060807
	US 20070184998	A1	20070809	US 2006-597837	20060809
	US 20070232517	A1	20071004	US 2006-535896	20060927
PRAI	US 1999-437532	A3	19991110		
	US 2002-144331	A2	20020513		
	US 2003-448239P	P	20030218		
	US 2004-775264	A2	20040210		
	US 2004-925331	A	20040824		
	WO 2005-US4133	W	20050210		
	US 2006-597837	A2	20060809		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20050130868	ICM	C11D001-00
	INCL	510459000
	IPCI	C11D0001-00 [ICM, 7]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM, 7]

	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20040162227	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
AU 2005211747	IPCI	B01F0001-00 [I,C]; C11D0003-02 [I,C]; B01F0001-00 [I,A]; C11D0003-02 [I,A]
	IPCR	B01F0001-00 [I,C]; B01F0001-00 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
WO 2005077064	IPCI	C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10;

		C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
CN 1918276	IPCI	C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA	C11D017/04B
JP 2007522326	IPCI	C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C]; C11D0003-08 [I,A]; C11D0003-10 [I,C]; C11D0003-10 [I,A]; C11D0003-12 [I,C]; C11D0003-12 [I,A]; C11D0003-39 [I,C]; C11D0003-39 [I,A]; C11D0003-40 [I,C]; C11D0003-40 [I,A]; C11D0003-50 [I,C]; C11D0003-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-04 [I,C]; C11D0017-04 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
	FTERM	3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
KR 2007009560	IPCI	B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI	B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI	C11D0003-395 [I,A]
	NCL	510/302.000
US 20070232517	IPCI	C11D0017-00 [I,A]
	IPCR	C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL	510/445.000
	ECLA	C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A multiuse laundry cleaning device in a solid state containing a homogeneous quantity of cleaning agent configured to be disposed within a laundry cleaning machine tub and to dissolve and release a substantially consistent quantity of cleaning agent over a plurality of laundry wash and rinse cycles. The cleaning agent includes a gas-releasing component, potassium silicate as a solubility control component to limit the solubility of the cleaning agent, an alkalinity agent as a pH regulator, and a water softener to solvate metal ions in a solution of water. Controlled dissoln. of the cleaning agent composition releases a desired quantity of cleaning agent in each cleaning cycle over a plurality of cycles. A porous covering or bag may be disposed around the solid cleaning agent. Thus, a multiuse laundry cleaning device comprises 42% to 52% by weight sodium perborate monohydrate as the gas-releasing component, 35% to 45% by weight potassium silicate as the solubility control component, 1% to 5% by weight zeolite as the water softener, 1% to 5% by weight sodium hydroxide as the alkalinity agent, 0.5% to 3% by weight of a optical brightener, 1 to 5% by weight of a fragrance component; and 0.5 to 3% by weight of an anti-redeposition

component.  
 ST sodium perborate monohydrate  
 potassium silicate zeolite cleaning device; solid  
 cleaning compn sodium hydroxide  
 IT Detergents  
 (laundry, solid; multiuse, solid cleaning device and composition)  
 IT Zeolite-group minerals  
 Zeolites (synthetic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (water softener; multiuse, solid cleaning device and composition)  
 IT 1310-73-2, Sodium hydroxide, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (alkalinity agent; multiuse, solid cleaning device and composition)  
 IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses  
 10332-33-9, Sodium perborate  
 monohydrate 15630-89-4, Sodium percarbonate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (gas-releasing component; multiuse, solid cleaning device and composition)  
 IT 1312-76-1, Potassium silicate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (solubility control component; multiuse, solid cleaning device and  
 composition)

L10 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:916401 CAPLUS

DN 136:39182

ED Entered STN: 20 Dec 2001

TI Phosphate-free automatic dishwashing detergent

IN Foote, Michael R.; Brumbaugh, Ernie

PA Amway Corporation, USA

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C11D003-00

ICS C11D003-22; C11D003-08; C11D003-39

INCL 510226000

CC 46-6 (Surface Active Agents and Detergents)

Section cross-reference(s): 7

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6331512	B1	20011218	US 2000-603135	20000623
PRAI	US 1999-157345P	P	19990929		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6331512	ICM	C11D003-00
	ICS	C11D003-22; C11D003-08; C11D003-39
	INCL	510226000
	IPCI	C11D0003-00 [ICM, 7]; C11D0003-22 [ICS, 7]; C11D0003-08 [ICS, 7]; C11D0003-39 [ICS, 7]
	IPCR	C11D0001-66 [N, C*]; C11D0001-66 [N, A]; C11D0003-08 [I, C*]; C11D0003-08 [I, A]; C11D0003-37 [I, C*]; C11D0003-37 [I, A]; C11D0003-38 [I, C*]; C11D0003-386 [I, A]; C11D0003-39 [I, C*]; C11D0003-39 [I, A]
	NCL	510/226.000; 510/230.000; 510/374.000; 510/378.000
	ECLA	C11D003/08; C11D003/37C6B; C11D003/386A; C11D003/39D; M11D

AB A concentrated automatic dishwashing composition comprises (a) .apprx.1-80% alkali metal silicate, (b) .apprx.1-20% nonionic surfactant, (c) .apprx.5-50%

oxygen-containing bleaching agent, (d) .apprx.0.5-10% one or more alkaline stable enzyme, and (e) .apprx.5-30% polyacrylate, wherein the composition is free of any carbonate, phosphate, and chlorine compds. A preferred composition is composed of sodium silicate 49.09, nonionic surfactant 9.25, sodium perborate monohydrate 24.05, alkaline stable protease 3.00, and sodium polyacrylate 14.61 weight%.

ST phosphate free automatic dishwashing detergent; sodium silicate dishwashing detergent; nonionic surfactant dishwashing detergent; perborate monohydrate sodium dishwashing detergent; protease dishwashing detergent; polyacrylate dishwashing detergent

IT Detergents  
(dishwashing; phosphate-free automatic dishwashing detergent containing alkali metal silicate, nonionic detergent, O-containing bleaching agent, enzyme and polyacrylate)

IT Alcohols, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(fatty, ethoxylated; phosphate-free automatic dishwashing detergent containing)

IT Alcohols, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(fatty, propoxylated; phosphate-free automatic dishwashing detergent containing)

IT Surfactants  
(nonionic; phosphate-free automatic dishwashing detergent containing)

IT Enzymes, uses  
Polyoxyalkylenes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(phosphate-free automatic dishwashing detergent containing)

IT 1312-76-1, Potassium silicate 1344-09-8, Sodium silicate 6834-92-0, Sodium metasilicate 9000-92-4, Amylase 9001-00-7, Bromelain 9001-12-1, Collagenase 9001-73-4, Papain 9001-75-6, Pepsin 9001-92-7, Proteinase 9002-07-7, Trypsin 9003-04-7, Sodium polyacrylate 9003-11-6D, Ethylene oxide-propylene oxide copolymer, derivs. 9004-06-2, Elastase 9004-07-3, Chymotrypsin 9014-01-1, Subtilisin 9025-49-4 9031-55-4, Carboxylase 9031-94-1, Amino peptidase 10006-28-7, Potassium metasilicate 10332-33-9, Sodium perborate monohydrate 10486-00-7, Sodium perborate tetrahydrate 12653-78-0, Potassium perborate 37341-53-0, Keratinase  
RL: TEM (Technical or engineered material use); USES (Uses)  
(phosphate-free automatic dishwashing detergent containing)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Ahmed; US 5423997 1995 CAPLUS
- (2) Brumbaugh; US 5240632 1993 CAPLUS
- (3) Caravajal; US 5703027 1997 CAPLUS
- (4) Dixit; US 5468411 1995 CAPLUS
- (5) Drapier; US 5173207 1992 CAPLUS
- (6) Durbut; US 5169553 1992 CAPLUS
- (7) Haeggberg; US 5599781 1997 CAPLUS
- (8) Sadlowski; US 5597789 1997

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(FILE 'HOME' ENTERED AT 14:52:16 ON 07 NOV 2008)

FILE 'CAPLUS' ENTERED AT 14:52:58 ON 07 NOV 2008

E CARUTHERS ED/AU

E CARUTHERS E/AU

L1 28 S E3-E8

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      E COOK CORY/AU
L2      3 S E4
      E EVANS K/AU
L3      27 S E10 OR E11

      FILE 'REGISTRY' ENTERED AT 15:01:46 ON 07 NOV 2008
      E POTASSIUM SILICATE/CN
L4      1 S E3
      E SODIUM PERBORATE MONOHYDRATE/CN
L5      1 S E3

      FILE 'CAPLUS' ENTERED AT 15:04:29 ON 07 NOV 2008
      S ( 1312-76-1/REG# OR POTASSIUM SILICATE#) AND ( 10332-33-9/REG

      FILE 'REGISTRY' ENTERED AT 15:05:32 ON 07 NOV 2008
L6      1 S 10332-33-9/RN

      FILE 'CAPLUS' ENTERED AT 15:05:32 ON 07 NOV 2008
L7      464 S L6

      FILE 'REGISTRY' ENTERED AT 15:05:33 ON 07 NOV 2008
L8      1 S 1312-76-1/RN

      FILE 'CAPLUS' ENTERED AT 15:05:33 ON 07 NOV 2008
L9      4336 S L8
L10     3 S ( L9 OR POTASSIUM SILICATE#) AND ( L7 OR SODIUM PERBORATE MON

=> s (1312-76-1 or potassium silicate#) and percarbonate@ and laund#####
      REGISTRY INITIATED
      Substance data SEARCH and crossover from CAS REGISTRY in progress...
      Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.


L12     4336 L11

      698593 POTASSIUM
      242472 SILICATE#
      5291 POTASSIUM SILICATE#
      (POTASSIUM(W)SILICATE#)
      3524 PERCARBONATE@
      (PERCARBONATE)
      26257 LAUND#####
L13     3 ( L12 OR POTASSIUM SILICATE#) AND PERCARBONATE@ AND LAUND#####
      #####

=> s l13 not l10
L14     1 L13 NOT L10

=> d all

L14     ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
AN      2004:681376  CAPLUS
DN      141:192284
ED      Entered STN:  20 Aug 2004
TI      Autonomous cleaning composition and making up the cleaning composition

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IN Caruthers, Eddie L.  
 PA Eco-Safe Technologies, L.L.C., USA  
 SO U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Pat. Appl. 2002  
 132,752.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM D06L001-00  
 ICS C11D017-00  
 INCL 510276000; X51-044.5; X51-045.5  
 CC 46-5 (Surface Active Agents and Detergents)  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040162227	A1	20040819	US 2004-775264	20040210
	US 7053040	B2	20060530		
	US 6403551	B1	20020611	US 1999-437532	19991110
	US 20020132752	A1	20020919	US 2002-144331	20020513
	US 6689276	B2	20040210		
	US 20050130868	A1	20050616	US 2004-925331	20040824
	AU 2005211747	A1	20050825	AU 2005-211747	20050210
	CA 2554448	A1	20050825	CA 2005-2554448	20050210
	WO 2005077064	A2	20050825	WO 2005-US4133	20050210
	WO 2005077064	A3	20061005		
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	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1725648	A2	20061129	EP 2005-713227	20050210
	R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU			
	CN 1918276	A	20070221	CN 2005-80004598	20050210
	BR 2005007493	A	20070710	BR 2005-7493	20050210
	JP 2007522326	T	20070809	JP 2006-553208	20050210
	KR 2007009560	A	20070118	KR 2006-715949	20060807
	MX 2006PA08945	A	20070126	MX 2006-PA8945	20060807
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	US 20070232517	A1	20071004	US 2006-535896	20060927
PRAI	US 1999-437532	A3	19991110		
	US 2002-144331	A2	20020513		
	US 2003-448239P	P	20030218		
	US 2004-775264	A2	20040210		
	US 2004-925331	A	20040824		
	WO 2005-US4133	W	20050210		
	US 2006-597837	A2	20060809		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20040162227	ICM	D06L001-00
	ICS	C11D017-00
	INCL	510276000; X51-044.5; X51-045.5
	IPCI	C11D0003-08 [I,A]
	IPCR	B01F0001-00 [I,C*]; B01F0001-00 [I,A]; B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*];

		C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/276.000; 510/445.000; 510/455.000; 510/511.000; 510/446.000; 510/507.000; 510/509.000; 510/531.000
	ECLA	B01F001/00F2; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 6403551	IPCI	C11D0013-00 [ICM,7]
	IPCR	B01F0005-04 [I,C*]; B01F0005-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-02 [I,C*]; C11D0003-02 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/459.000; 134/022.190; 510/218.000; 510/219.000; 510/224.000; 510/293.000; 510/352.000; 510/378.000; 510/392.000; 510/428.000; 510/439.000; 510/476.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
US 20020132752	IPCI	C11D0013-00 [ICM,7]; C11D0017-00 [ICS,7]; C02F0001-42 [ICS,7]
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	NCL	510/447.000; 510/509.000; 210/687.000; 008/137.000; 210/670.000; 510/352.000; 510/446.000; 510/459.000
	ECLA	C11D011/00B2A; B01F005/04C18; C11D003/00B10; C11D003/02H; C11D003/08; C11D003/10; C11D003/12G2F; C11D011/00F
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CA 2554448	IPCI	C11D0017-04 [I,A]; D06F0039-02 [I,A]
	IPCR	C11D0017-04 [I,C]; C11D0017-04 [I,A]; C11D0003-00 [I,C*]; C11D0003-00 [I,A]; C11D0003-08 [I,C*]; C11D0003-08 [I,A]; C11D0003-10 [I,C*]; C11D0003-10 [I,A]

			[I,A]; C11D0003-12 [I,C*]; C11D0003-12 [I,A]; C11D0003-39 [I,C*]; C11D0003-39 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; D06F0039-02 [I,C]; D06F0039-02 [I,A]
WO 2005077064	IPCI		C11D0017-00 [I,C]; C11D0017-06 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR		C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA		C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H
EP 1725648	IPCI		C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR		C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA		C11D017/04B
CN 1918276	IPCI		C11D0017-00 [I,A]; C11D0017-06 [I,A]
	IPCR		C11D0017-00 [I,C]; C11D0017-00 [I,A]
BR 2005007493	IPCI		C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-06 [I,C]; C11D0017-06 [I,A]
	ECLA		C11D017/04B
JP 2007522326	IPCI		C11D0017-00 [I,A]; C11D0003-40 [I,A]; C11D0003-10 [I,A]; C11D0003-39 [I,A]; C11D0003-08 [I,A]; C11D0003-50 [I,A]; C11D0003-12 [I,A]; C11D0017-04 [I,A]; B08B0003-08 [I,A]; D06F0039-02 [I,A]
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	FTERM		3B155/AA21; 3B155/BB08; 3B155/CD06; 3B155/GA01; 3B155/GA12; 3B155/GA13; 3B155/GA14; 3B155/GB00; 3B155/GB02; 3B155/MA02; 3B155/MA05; 3B201/AA46; 3B201/BB02; 3B201/BB05; 3B201/CC01; 4H003/BA21; 4H003/BA23; 4H003/BA28; 4H003/DA01; 4H003/DA05; 4H003/EA07; 4H003/EA08; 4H003/EA15; 4H003/EA16; 4H003/EA18; 4H003/EA21; 4H003/EA28; 4H003/EB13; 4H003/EE05; 4H003/FA06; 4H003/FA09; 4H003/FA28
KR 2007009560	IPCI		B01F0001-00 [I,A]; B01F0015-02 [I,A]; C11D0011-00 [I,A]; C11D0003-00 [I,A]
MX 2006PA08945	IPCI		B01F0001-00 [I,C*]; C11D0003-02 [I,C*]
US 20070184998	IPCI		C11D0003-395 [I,A]
	NCL		510/302.000
US 20070232517	IPCI		C11D0017-00 [I,A]
	IPCR		C11D0017-00 [I,C]; C11D0017-00 [I,A]; C11D0017-04 [I,C*]; C11D0017-04 [I,A]
	NCL		510/445.000
	ECLA		C11D017/04B; C11D003/00B10; C11D003/08; C11D003/10; C11D003/12G2F; C11D003/39D; C11D011/00B2A; C11D017/00H

AB A solid cleaning composition is a long-term, solid cartridge made of cleaning agents and a solubility limiting agent for controlling an equilibrium concentration of the composition in a solvent, such as H2O. In use, the cleaning agents are dissolved only to a predetd. concentration needed for a single dose of a cleaning appliance, such as a clothes washing machine. The solid cleaning composition may be cyclically exposed to H2O. Controlled dissoln. of the cleaning composition releases a desired quantity of cleaning agents in each cleaning

cycle. The use of K silicate as a solubility controlling compound permits manufacture of the cleaning composition at ambient temps. and pressures. The cleaning composition may be molded or cast into a desirable shape for controlling surface area.

ST carbonate cleaning agent laundry washing

IT Cleaning  
(effervescent agents, nondetergent; solid cleaning composition based on)

IT Effervescent materials  
Laundering  
(solid cleaning composition based on)

IT Zeolites (synthetic), uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(water softener; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 533-96-0, Sodium sesquicarbonate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(alkalinity agent; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 144-55-8, Sodium bicarbonate, uses 497-19-8, Sodium carbonate, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(effervescent cleaner; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

IT 1312-76-1, Potassium silicate 3313-92-6, Sodium percarbonate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(solubility control agent; solid cleaning composition based on effervescent carbonate or borate cleaning agent)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Anon; WO 9117232 1991 CAPLUS
- (3) Anon; WO 9804672 1998 CAPLUS
- (4) Backes; US 5665694 A 1997 CAPLUS
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- (20) Nelli; US 3772193 A 1973 CAPLUS
- (21) Olson; US 6365568 B1 2002 CAPLUS
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- (23) Schneider; US 3507624 A 1970
- (24) Siragusa; US 5755330 A 1998
- (25) Sorensson; US 5338528 A 1994 CAPLUS
- (26) Sorensson; US 5344633 A 1994 CAPLUS
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- (30) Yando; US 5827434 A 1998 CAPLUS
- (31) Yurko; US 4397777 A 1983 CAPLUS

=> logoff y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

14.83

282.16

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-0.80

-50.40

STN INTERNATIONAL LOGOFF AT 15:11:38 ON 07 NOV 2008